

# THE AMERICAN MEDICAL MONTHLY.

AUGUST, 1861.

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## ESSAYS, MONOGRAPHS, AND CASES.

*Virchow's Pathological Views.* By Dr. R. K. BROWNE, Prof. of Physiology in the New York Medical College.

[Read before the New York Medico-Chirurgical College, June 27th, 1861.]

Virchow is an epoch-making author, and is justly entitled to the prefix great. His pathological doctrines mark the opening of an era during which they will lead the advance in that field of science. The existence of Virchow's "Cellular Pathologie" is well known, yet apparently but few of the medical world have examined into the purport of its contents; it consists of twenty lectures, which, in 1858, at Berlin, first came from the lips of Virchow. They are reported to have been very convincing to his auditors.

We are not about to present a summary of this volume, but merely a succinct exposition of certain of its portions. It contains but very little matter that, prior to the lectures, had not been presented by Virchow in other publications, and the student of medical science, *au courant* with the contributions made to its literature in Germany for the most recent ten years, will find in the "Cellular Pathologie" but little entirely new or surprising; and in that literature must a fresh presentation of Virchow's researches and discoveries be sought

for.\* "Cellular Pathologie" imports a pathology in contradistinction to the humoral and solidistic pathology, from both of which it is sufficiently distinct, without, however, involving their entire rejection.

*Cell Development.*—The leading position of Virchow, contrary to the persuasion of the older pathologists, is in his understanding of the mode of cell-production and transformations. Starting from a denial of *free* cell-production, his explanation of the mode of formation of a pathological tissue is directly at variance with the general view, which is, that free cell-production constitutes the mode of growth of all pathological formations.

The same view was also held undoubtingly with regard to the physiology of normal tissue-growth, until Kölliker made the covert suggestion "that it had been much too readily taken for granted." (*Microscopical Anat.*)

A brief sketch of the essential points of the doctrine of cell-production as they appeared from time to time in its history, rejected by Virchow, will enable those whose studies have not familiarized them with it, to understand Virchow's views of cellular growth, and his use of them in the field of pathology.

Raspail, in 1833, was the first to describe the morphology of the cell, and to give an account of the process of the formation, which he likened to crystallization. He described them as arising in "a liquid tending to organize." Raspail ascribed, therefore, to the cell only an active capacity, while he ascribed to the fluid implied a formative or generative capacity, by which from itself the cells were formed. The latter idea became that of Schleiden and Schwann. But Raspail had done little more than theorize upon the observations which had accumulated in the era preceding him. We owe to Schleiden, the botanist, the first series of observations on which reposed the theory of cell-development.

He studied the process of cell-development as presented in the embryonic stage of vegetable growth. His first observations were upon the capsule which contains the albuminoid substance of the seed, and also the extremity of the pollen-tube, from which the embryonal growth arises. He represented that in both these points a solution exists which first assumes a turbid and then a granular aspect; nucleoli arise from the union of these granules at various points; next around these are found nuclei, (cytoblasts,) and subsequently the cells.

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\* Virchow himself informs us of this; our own acquaintance with his researches is recent.

According to this account, the mode of production of the cells is the same as that of Raspail, though Schleiden spoke of its being "the formation of cells within cells;" yet, although the process took place within the large cell or embryonal sac, it is plain that each cell arose separately out of the fluid implied, and that no one of them took part in the reproduction of others. This process is what we now know as free cell-development, and this is the doctrine which Virchow rejects. Schwann followed Schleiden, and made his observations on the embryonic animal normal tissues. He had adopted Schleiden's theory of cell-production. In his examination of animal tissues, Schwann observed in the embryo innumerable cells reposing in a more or less consistent intercellular substance, and towards the production of these he entertained the idea previously announced by Schleiden. He thus assigned to the production of the cellular elements of animal tissues the doctrine Schleiden had alleged with reference to vegetable tissues. In his account of the processes subsequent to the origin of the cells, by which these are transformed into the structure, Schwann was entirely original.

This doctrine of the mode of cell origin in normal tissue was adopted by Johannes Müller in his classification of pathological formations and morbid growths. Müller led in showing that it is under the same law both normal and abnormal growths are developed; and relying upon Schwann's dictum respecting the size of the cells, his own observations were with reference to the processes of their transformation into abnormal structure, or into degenerated morbid products.

The doctrines of Müller in pathology became those of Vogel, Lebert, Rokitsansky, Paget and others. None of these reinvestigated Schwann's and Schleiden's doctrines of cell-production, and their researches were limited to the investigation of the various stages of the transformation, by which morbid growths are formed out of cells after these had originated from that blastema. But while the train of pathologists were accepting Schleiden unquestioned, and had accumulated their stores of observations in accordance with the erroneous presumption of free cell-production, the botanists, dealing with normal vegetable tissue, were diligently reinvestigating cell-growth, and in 1844 Hugo Von Mohl brought forward his explanation of the formation of cells in the plant. He affirmed that the production of cells in plants occurred only in the cavities of other cells, (plant-cells.) He differed also materially in his account of the order of the formation of the cell, its nuclei and nucleolus, from that of Schleiden; "not the nucleolus appears first," he says, "but the nucleus or cytoblast." Von

Mohl was soon followed by the investigators in animal tissue, who objected to other points of Schwann's teachings. At length, in 1852, Remak unreservedly rejected Schwann's doctrine of free cell-development, and announced the aphorism—"Omnis cellula in cellula"—which became the leading doctrine of Virchow, and the pedestal of the "Cellular Pathologie."

"Omnis cellula e cellula."\*

Virchow says, "Just as little as we can now admit that tannin can arise out of sabunal mucus, or that out of the residue of the decomposition of animal or vegetable matter an infusorial animalcula, a fungus or an alga can be formed, equally little are we disposed to concede in physiological or pathological histology, that a new cell can build itself up out of any non-cellular substance. Where a cell arises, there a cell must have previously existed, (*omnis cellula e cellula*,) just as an animal can spring out from an animal, a plant from a plant."

This doctrine supplants that of Schwann; and although Virchow was not the first observer to propound it, yet he has brought to its illustration such a wealth of observation, and has applied it in such sweeping elucidation of the normal tissue and pathological formations, especially the latter, that he is fairly entitled to the credit of being its ablest expositor.

It will be evident that without vacating the theory of free cell-production from a formative substance, plastic lymph or cyto blastema, no radical or important change of our view of morbid products or pathological formations could have been attained to. The true production of the cells in the first instance, and the manner of the multiplication, and various transformations constituting the growth of the tissues, was the most indispensable part of a correct understanding of either normal or pathological tissue development, and Virchow believes with Johannes Müller, that the law is similar for the growth of both these. Until the day of Virchow, the pathologists had supposed the various pathological or morbid developments to be in the first instance a blastema or plasma, exuded from the vessels of the diseased parts, and that this itself was developed by its own capacity with the cellular growth which constituted the new formations. The degeneration of the histological forms constituted the final stage of the morbid products, as pus, etc. It is this doctrine of blastema and cell-

\* Virchow, Beit. Zur. Spec. Pathologie und Therapie., 1854.



growth that Virchow displaces by substituting the histological elements, we shall now describe.

Says Kölliker, "free cell-formation is exceedingly frequent in pathological productions, and the cells in pus and in exudations of all kinds arise in this manner; in fact, all pathological cell-formation properly comes under this head." (*Microscopical Anatomy*)

According to Virchow, the great majority of all new pathological formations arise from the excessive and perverted growth of the corpuscles of the connective tissue. Each of these, individually, consists of the cell, its nuclei and nucleoli; the constructive process consisting in all growths, malignant or benign, of the division of their nuclei and their multiplication. Instead of new formations by free cell-development from plastic lymph or blastema of Schwann, or the exudation of the early pathologists, Virchow shows that these growths are produced by hyper-development of the cellular element of connective tissue; the "connective tissue corpuscle" therein, being the active agent of the growth, and the connective tissue itself being the seat of the formation. Virchow has shown that this connective tissue, with its cellular element, the "connective tissue corpuscle," abounds everywhere in the human body, and that it may be regarded as enmeshing all the other histological elements. Its different varieties abound profusely in the brain, liver, kidney, muscles, cartilage, and even the skin and bone; and that whatever morphological changes its cellular elements undergo, they constitute the growth of pathological formations, which, therefore, to repeat, are but a development of the cells of connective tissue, or a degeneration subsequently of its elements.

The cellular element of connective tissue, "the plasmatic cell," is Virchow's own discovery, and he gives the first exposition of its nature and important pathological relations.

Virchow affirms that all, or nearly all, the morbid formations arise within the connective tissue by the perverted growth of these "plasmatic cells," and makes it evident how, by the abundance of this tissue everywhere in the body, pathological formations of the same character arise in different organs, since the same producing cellular elements are equally present in the most widely separated organs.

But this being so, what is Virchow's view of connective tissue? for it is manifest that with our idea of this tissue, we cannot concede to it the functions he ascribes to it.

The histogenesis of connective tissue turns out to be related in the closest possible manner with pathological doctrine, and although

recently other investigators had come to suspect that we must look to it for the growth of pathological products; yet, before Virchow, connective tissue was regarded as the most inoperative structure in the body, having none but passive properties. It was said to consist of white and yellow elastic fibres in close combination, with pigment and fat cells.

According to Schwann, the fibres of connective tissue are transformed from cells of the simplest form, which commence the process by assuming an elongated shape, then fasten end to end, and gradually break up into fibres within *the body of the cell*, then splitting into distinct fibrils, so that each row of cells, thus mutually attached by their extremities, is developed into a bundle of connective tissue. The white fibrous bundles are sometimes described as non-cellular fibres, in very intimate conjunction with a homogeneous intercellular material, and sometimes as this very material, disposed in such a way as to present a fibrillated appearance, though not capable of separation into distinct fibrils. Notwithstanding connective tissue from the date of Schwann's researches has been the object of much investigation, Virchow was the first to give a complete and satisfactory account of its mode of formation and the character and history of its elements.

According to Virchow, the connective tissue consists of (1) white bundles; (2) elastic fibres; (3) the "connective tissue corpuscles" or cells and an intercellular substance, the same which Schwann reputed to be the blastema from which the cells were generated. The white fibres arise from the direct fibrillization of the intercellular substance, and while this is taking place some of the cells are transformed into elastic fibres, and others change to fat and pigment cells, recognized by histologists, while others of a spindle-shape, or more or less stellate, remain as a part of the tissue itself. The elastic fibres result from a peculiar change and sclerosis (hardening) of the walls of the cells, which terminate in a disappearance of the cell contents and the obliteration of their cavity. The corpuscles, or plasmatic cells, are described by Virchow as minute corpuscles, sometimes fusiform, but more frequently star-shaped, and joined by means of their branching prolongations, so as to form a net-work similar to that of the structure of bone. These corpuscles and canaliculi, Virchow asserts, are really cellular, consisting of these very elements greatly transformed. As before said, while some of the embryonic cells are assuming their stellate, frequently anastomosing form and others becoming elastic fibres, the homogeneous intercellular substance becomes fibrillated, and the whole series constitutes the con-

nective tissue. By their capacity of division and multiplication, the "plasmatic cells" produce all pathological growths, whether malignant or benignant; the only distinction there is between these two being established by the kind of irritation or excitation in the part, to be explained further on—instead, therefore, of finding the origin of new formations in plastic lymph, blastema, or organizable exudation from the blood-vessels and free cell-growth within it, Virchow substitutes for the plastic lymph, the blastema of the earlier and the plasmatic exudation of later authors, connective tissue, and especially its cellular element—"and directly traces to it the development of new formations, except epithelial formations and a few others." Virchow's doctrine, therefore, of the origin of pathological growths turns upon the fact that these cells have the function or power of multiplying by division and originating blood of secondary cells, in virtue of the irritation their subsequent action supposes, and that the developments of these cellular elements, with their outgrowths, or final degeneration, as in corpuscular lymph, pus, tubercle, constitute the vast majority of pathological formations, which are therefore growths of connective tissue. But it is not alone the cellular element of the connective tissue, but other parts of the tissue—in structural development of the cells—also undergo changes, degeneration, &c., &c.

But if the cellular elements of connective tissue are the active constituents of pathological processes, what is the inducing or exciting physiological cause of these processes? This, of course, is only to be sought in some relationship of these to external influences, and is found in the phenomena of irritability, induced when some cause of irritation acts either directly or indirectly through the medium of the blood upon the part, the normal state of which is thereby so altered, that it absorbs and attracts to itself from the parts around it a larger amount of matter than ordinarily.

*Irritability.*—Irritability pertains to the phenomenal history of every living thing, and "it is," Virchow says, "the very criterion of life." "Vital activity is, in so far as we are able to judge, nowhere, in no part whatever, carried on by means allotted to it in the beginning, but we everywhere see that a certain excitation is necessary for its production;" and accordingly, whenever a particular action is called into play, we have to deal with a manifestation of the function, the nutrition, or the formation of any part.

Irritability, therefore, is distinguished by Virchow into functional, nutritive and formative, and either of these may alone exist, or they may coexist. The action of the elements of a part may, therefore,

be displayed either in the promotion of its function, its nutrition, or its formation.

The first is displayed in the performance of the normal functions; a muscle contracts, or a gland secretes, although this may be excessive, and is then considered morbid. It is to be noticed that the influences which induce the functions are various, and are not indifferent. They operate under a law of specific relation or affinities between them and the elements of the parts.

Nutritive irritability is of much more interest to the pathologist than functional. It is manifest when the nutritive activity of parts is augmented, and is defined by the conditions in which there is an increase in the size of the cells of the affected part, but no *new formation* of the cellular or other histological elements. Thus, in Bright's disease, the renal epithelial cells enlarge merely by excessive nutritive absorption. Their contents become turbid, and the tubules broadened. "If we draw a thread through a cartilage so that merely a traumatic irritation is produced, we see that all which lies close to the thread becomes enlarged through an increased absorption of material."—P. 298. This turbidity of the cells of the part and increase of their dimensions constitute a form of corneal opacity.

Finally, formative irritability is exhibited in a marked multiplication of the number of the constitutive elements. It follows nutritive irritability. In it, we find that the cellular elements, shortly after they have experienced the nutritive enlargement, exhibit further changes, which begin in the interior of the nuclei. The nucleoli become remarkably large, sometimes oblong, and sometimes staff-shaped. Then the nucleoli become constricted in the middle and assume the form of a finger-biscuit, and a little later two nucleoli appear. "About such a divided nucleolus, the finger-biscuit-like constrictions, and afterwards the real division of the nucleus, also take place. This may be repeated, so that three or four nuclei arise. If now we advance a step further in these processes, we come to the new formations of the cells themselves."—P. 310.

Groups of many cells arise by the continuation of this process from single ones; and in this mode of cell-production, and of these groups, consists morbid tissue growth. Their subsequent transformations and degeneration constitute the final form of the pathological product. Coincident with either of these forms of irritation may exist vascular or nervous disturbance, but they are never the inducing cause of them; "for," says Virchow, "all these forms of irritability may ap-

pear in parts not known to possess either nervous or vascular elements."

*Inflammation.*—In inflammation we have all three forms of irritation. In traumatic injury of muscle, for instance, we have nutritive and functional disturbance; and in inflammation of interstitial connective tissue, we have new formations and degenerations, pus, etc.

*Inflammation divided.*—There are two distinct forms of inflammation, but to Virchow there is no such thing as inflammatory exudation. The morbid product arising in the inflamed part is composed of material which has been generated there from the materials already there, and not deposited there from a separate source.

First, there is a purely *parenchymatous inflammation*, within the tissue, and presenting no free fluid. The cellular elements of the tissue are increased in dimensions and filled with abnormal matter. And, second, there is a *secretory (or exudative) inflammation*, belonging mostly to the mucous and serous surfaces. In these, the abnormal cellular product forms on the surface, attended with an increased amount of fluid.

That he has correctly conceived these cases, Virchow says, is shown by the fact that they occur in different organs. The *secretory inflammation* effects the formation of fibrin upon surfaces or in cavities, or the production of masses of mucus upon mucous surfaces; for just as the mucus is the product of the membrane carried out upon its free surface by means of the saline and watery matters of the blood, so also the fibrin, (or coagulable lymph,) instead of being a transudation from the blood-vessels, the work of vascular action, is a local product of those tissues on, and in, which it is found, and reaches the surface in the same way as the mucus of the mucous membrane.—P. 392. Absorption of the fibrin thus produced into the blood causes the increased quantity of fibrin there in inflammatory fever.

"The fibrinous crasis, therefore, is the product of local disease."

Instead of the cellular elements, *i. e.*, pus or mucous corpuscles, arising from the blastemas exuded, they are produced by the plasmatic cells, or are of a tissue corpuscle of the seat of the inflammation.

"*Parenchymatous Inflammation.*"—In parenchymatous inflammation, all the fluid transuded from the blood-vessels is absorbed by the cells of the parts involved, although the production of new elements may occur, or various degenerative changes may occur, (as fatty degeneration.)

The commencement of inflammation, therefore, is not in a peculiar action of the vascular or nervous tissue, but in that of the cellular

elements of the part involved; and the hyperæmic condition of the vessels is not the cause of the local inflammation, but a consequence of the abnormal growth of the irritated elements of the tissues. Stop, or reduce the supply of blood, and you cut off the food which feeds their growth. "If," says Virchow, "we cut off or diminish the supply of nutritive matter, we must, of course, prevent the part from absorbing more than its wont."

*Formation of Pus.*—Virchow distinguishes two modes of pus-formation, according as pus proceeds from epithelial or from connective tissue.

If from the former, the pus-cells are produced by the multiplication of the cells of the younger strata of the epithelium, (*e. g.*, the rete Malpighi of the skin.)

Says Virchow: "The more deeply-seated pus formations regularly take place in the *connective tissue*. In it, then, first occurs an enlargement of the cells, (connective tissue corpuscle,) the nuclei divide, and for some time multiply excessively. This first stage is then very soon followed by divisions of the cells themselves. Round about the irritated parts, where before single cells lay, pairs or groups of cells are subsequently found, out of which a new formation of an homologous kind (connective tissue) usually constructs itself. More in the interior, on the contrary, where the cells were early abundantly filled with nuclei, heaps of little cells soon appear, which at first still preserve the direction and form of the previous connective tissue corpuscle. Somewhat later, we here find roundish collections, or diffuse infiltrations, in which the intermediate tissue is extremely scanty, and continually liquefies more and more in proportion as the proliferation of the cell extends.\* After the abscess produced by such a process discharges, it is healed by granulations, for the formation of which it is essential that the intercellular substance should not be entirely liquefied. The difference between the suppuration and the granulation is, that in the former, the degenerative process exceeds the formative; while the reverse is the case in granulation. In the former, the intercellular substance, which is the residue of the cells, liquefies and deprives them of further capacity of multiplication. It is an error, therefore, to attribute ulceration to the corrosive properties of pus.

"Pus is not the dissolving, but the dissolved, *i. e.*, the transformed tissue." The old structures heal up and disappear in the process of producing the new ones. The product of the cell multiplication takes

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\* Cell. Pathologie, p. 451.

the place of the previous tissue, and the ulcer will continue to increase in its size so long as this excessive cell-proliferation continues. The newly produced elements arise from prior ones which cease their structural character in the very act. So by a similar process in the production of morbid growths, the elements of the new growth arise out of the connective tissue corpuscle of the diseased tissue. Hence Virchow decides that "*there is a stage* when it is impossible to ascertain indubitably whether we have in a diseased part to deal with simple processes of growth, or with the development of a heteroplastic form."—P. 454. For "the first development of cancer, of canceroid, and of sarcoma, exhibits the same stages; if the course of their development be traced sufficiently far back, we at last come across a stage in which, in the younger and deeper layers, indifferent cells are met with, which do not until a later period, according to the particular nature of the irritation to which they are exposed, assume the one or the other type."—P. 454.

In this view it is plain how microscopists have differed in the diagnosis of cancer.

Virchow classifies the new formation as heterogeneous and homologous; both, though they differ, are equally abnormal.

"Heterologous we may call not only malignant, degenerative neoplasms, but we may also thus designate every tissue which deviates from the recognized type of the part; whilst we should call all that homologous which, though new formed, still reproduces the type of its parent soil. Thus, the cells of pus are heterologous, because they differ from the normal parent cells by the proliferation of which they were produced; but tissues may be heterologous though they do not vary from physiological types.

"There is," says Virchow, "no other kind of heterology in morbid structures than the abnormal manner in which they arise, and that this abnormality consists either in the production of a structure at a point where it has no business, or at a time when it ought not to be produced, or to an extent which is at variance with the typical formation of the body."

Heterology, we are warned, must not be identified with malignity.

*Malignity.*—Cancer is malignant, not "because it contains heterologous cells, nor canceroid benignant because its cells are homologous; they are both malignant, and their malignity differs only in degree." For "(enchondromata) which were formerly described as unquestionably benignant, sometimes occur in soft, and rather gelatinous forms, which may occasion just such internal metastases as cancer."—



P. 486. And sarcomata may "appear secondarily in the lymphatic glands, and in many cases occur throughout the whole body, metastatically, to such an extent that scarcely any organ is spared by them." —P. 487.

Morbid growths may infect other organs than where they arise in either of two ways. On the one hand, their cellular elements may pass into the blood, which rarely happens; or on the other, vitiated fluids of the part first affected may pass into the venous or lymphatic system, and reach some part where they may excite the same action as occurred in their production.

A special blood disease giving rise to tumors is not admitted; but particular substances, it is admitted, may find their way into the blood, and induce particular morbid changes in individual parts by their being taken into them in virtue of a specific attraction between these parts and substances.

Very interesting to the surgical pathologist will be his account of the recurrence of certain morbid growths after extirpation.

"If we examine any proliferating tumor, of a cellular character, we often find from three to five lines beyond its apparent limits the tissues already in a state of disease, and exhibiting the first traces of a new zone. This is the chief source of local recurrence after extirpation, for it proceeds from the zone, that cannot be detected with the naked eye, beginning to grow in consequence of the increased supply of nutritive material, which results from the removal of the original tumor. No new deposit from the blood takes place there, but the new-formed germs, which already lie in the neighboring tissue, run through their further development in the same manner that it would otherwise have taken place, or perhaps still more quickly."—P. 458.

But notwithstanding Virchow rejects the ordinary distinction of malignant and benignant tumors, and affirms the similarity of their source and of the character of their histological elements and their various transformations, yet he affirms that sooner or later there are differences, that the microscope can readily be applied to detect. Accordingly, he proposes that their classification be based upon their microscopic anatomy.

His views of the genesis of tubercle are peculiarly original. What we know as the miliary form alone is truly tubercular, with which, however, he classes the bodies found in the arachnoid, and which have been denied a tubercular character, because they contain cells.

Regarding these he says:

"You will generally find the tubercle in the brain described as be-

ing solitary, but they are not simple bodies; every such mass (tuber) which is as large as a small apple, (1 in.,) or even not larger than a currant, contains many thousands of tubercles. It is quite a nest of them, which enlarges not by the growth of the original form, but rather by the continual formation and adjunction of new foci at its circumference.

"If we examine one of these perfectly yellowish-white, dry cherry tubera, we find immediately surrounding it a soft vascular layer, which marks it off from the adjoining cerebral substance, a closely-investing areola of connective tissue and vessels. In this layer lie the small young granules, ('miliary tubercles,') now in greater, now in less number. They establish themselves externally, and the large tuber grows by the continual apposition of new granules, of which every one singly becomes cheesy."

But tubercle has its origin or growth in the cells of connective tissue; it is formed of a mass of cells rich in nuclei, by a process of cell-proliferation, similar to that for pus. It is distinguished from the latter, and also from the more highly organized forms of cancer, which are formed of large corpuscles, with highly developed nuclei and nucleoli. Tubercle is also developed out of the histological elements of connective tissue, by a process of degenerative cell-proliferation. By the profusion of its growth the nutritive supply is cut off, and then it shrinks and assumes its disintegrated cheesy state. But pus or cancer may undergo a similar metamorphosis, contrary to Sebert, who believes the corpuscles found in the centre of tubercle "to be the first bungling products, unfortunate essays of organization." Virchow affirms that they are formed out of matured elements, by shriveling and fatty degeneration. When a large tubercle corpuscle is found, "a cell had previously existed," and similarly when they occur in cancer, which similarly undergo cheesy metamorphosis; they represent that degenerated form of cancer-cells and nuclei; and so pus also undergoes cheesy metamorphosis, and its corpuscles are shriveled pus-cells. In all these the ultimate character of the bodies is the same.

We come now to a subject which has been much discussed since the appearance of the "Cellular Pathologie." No pathologist before, since the time of Cruveilhier, who was the first to accurately describe the coagula found in blood-vessels, has found a satisfactory account of their origin and history. This Virchow does, in his doctrine of thrombosis, the process by which a coagulum of blood is formed within the vessel. According to Virchow, soon after the formation of these *thrombi*, their fibrin breaks down and becomes granular. The cor-

puscles lose their coloring matter, become crenated, and afterwards almost entirely disappear. A yellow-white, puriform liquid appears, in which the partially altered white corpuscles remain.

This fluid is not pus, although it appears so superficial; nor is the process suppurative, since it occurs in vessels in which no signs of inflammatory action are found. Thrombi may coexist with phlebitis; or, on the other hand, inflammation of the vascular walls "may unquestionably exist when the current of blood within the vessels of the affected part is perfectly free and unobstructed." But according to Virchow, in arteritis or phlebitis, the morbid products are formed in the walls of the vessel, and not in its calibre.

The thrombus is frequently confined to the seat of its origin, extending as far as in the next large vessel, into which it empties; but frequently the deposition of layers of coagulum may prolong it beyond the mouth of the branch into the trunk, in the same direction with the current of the blood. Now portions of this may be detached by the current and carried into the general circulation, constituting emboli. If thus set free it will be carried along the venous channels to the heart, and thence proceeding in the pulmonary artery, will be detained in one of its branches. This detention will of course exclude the supply of blood to the tissues fed by the vessels.

It is from these data that Virchow accounts for these metastatic abscesses, which have been generally thought to denote pyemia.

"If," he says, "ulceration takes place in one of the valves of the heart, not by means of the formation of pus, but in consequence of an acute or chronic softening, crumbling fragments of the surface of the valve are borne away by the stream of blood, and reach with it far distant points, as the spleen, the kidneys, etc."

It is of course denied by Virchow that such metastases originate in the introduction and conveyance of pus in the blood. He denies its absorption; but he admits that corrupted juices may enter the blood, and lay hold upon certain points, for which the former has a special affinity. (See previous page.)

It is supposed by Virchow that in this latter way another class of metastases besides those attributable to emboli are caused. To this class belongs that metastatic pleurisy which develops itself without any metastatic abscess in the lungs, and that seemingly rheumatic articular affection in which no distinct deposit is found in the joints; and further, that diffuse gangrenous inflammation of the subcutaneous tissue which cannot well be accounted for, unless we suppose a more chemical mode of infection.

Besides the foregoing, the volume entitled "*Cellular Pathologie*" gives the intimate anatomy and the physiological and pathological relations of the nervous system, and a classification of other normal tissues; the subject of nutrition; fatty, amyloid, and other forms of degeneration; while a large portion of it is occupied with an account of Virchow's observations of the process and transformations in growth of a normal kind, and these should be understood in order to estimate the value of the pathological doctrines. An analysis of these must be reserved for a future occasion, and opportunity recurring, we shall do our best towards a *résumé* of Virchow's observations in these departments, reserving until then any intimation of dissent. The doctrines can be invalidated only by deciding the incorrectness of the data upon which they are founded, and this is the province of the microscopist. If the data be true, the dissidence which has from the earliest dawn of medicine prevailed with regard to every feature of disease must disappear, and empiricism in pathology give place to the previsions and principles of science. We are ourselves in great measure, like Virchow's early auditors, convinced. Comment upon the doctrines is valueless except by those who have an equal degree, if not extent, of proficiency with Virchow in pathological observations. We accord our conviction, that at no time has a volume in medicine with scientific pretensions at all to be compared to those of the "*Cellular Pathologie*" appeared. Nothing can exceed the easy mastery Virchow has shown over the details of all the subject, nor the evidence of ability to cope in a truly scientific manner with the great problems everywhere encountered on the field of pathology. At every step he has transcended the *rôle* of the mere observer with the barren accumulation of fact, and has given us their *rationale*. Few observers, especially in the world of medicine, ever seem to have had any conception that nature furnishes us with the facts or phenomena alone, and not the *philosophy* of them; *that* must be developed in the mind of the observer; the only difficulty in the case being, that the philosophy must be *that* of the facts, and not a philosophy or speculation discordant with them.

This service Virchow has competently striven to render to the scientific student, and he will probably stand hereafter as the first author in the long list of periods who has succeeded in doing in anything like the same degree or to the same extent—a *scientific* work in pathology. He has signalized his difference in these respects from all the other observers in the most fundamental way; passing, by dint of nice critical acumen, beyond the mere fallacious interpretation which so readily

springs to the natural mind on the observation of facts, to that relationship between them which, once detected, furnishes the needed criterion of the truth or falsehood of the significance we at first sight assign to them.

Medicine, no less than pathology, is replete with such fallacies, and its professors must learn that philosophy as well as observation, intellectual resources as well as industry, are equally needed. Indeed, it is no more true that philosophy is at fault in medicine than it has been in natural history or mathematics. All the sciences equally receive their gains not from the mere collator of facts, but from the student of intellectual resources, who comes in the order of the method of discovery and investigation after the other, and employs his time and capacities in *using* the facts brought by the former. Whence now does he acquire his philosophy? Certainly not from the facts or phenomena given by nature, for these are solely the *subject* of his intellectual activity or life, but from some interior source, internal to himself, and not furnished by any fact of nature. Of course, as we just said, his philosophy must involve the facts, and consequently presupposes them; but it *supposes* also an evolution of powers which belongs to him, and constitutes the difference between him and the mere collator of facts, whose apprehension of them may be proved, on analysis, to be a confusion, and whose bungling attempts at elucidation will be a blunder. Considered in this view as to the rank and importance of his work, we reaffirm our starting sentence, that Virchow has opened a new era in the science of pathology; and whatever modifications or corrections his work may undergo, they can be made in no other way than on the principles and by the methods he has himself so ably employed.

It is evident to us that the cellular pathology has given a new impulse to the investigation, and that it will induce nothing less than a very thorough revision, of the present accounts of the histology of the animal tissues, and that in this work Virchow himself may be expected to go further than he has yet attained in the results of micrology. A single casual observation, induced by his account of the connective tissue of the body, has led to some results, which, with improved optical means and appliances at our command, we hope to verify. Sufficient is known to justify the belief that the genesis of muscular fibrillæ will be found to be allied, with some modifications, to the formation of the connective tissue corpuscle.

*Report on the Clinic for Diseases of Children, held in the New York Medical College, Session 1860-61.* By A. JACOBI, M.D., Professor of Infantile Pathology and Therapeutics.

(Continued from July No., p. 33.)

151. James McJ., æt. 13 years. *Typhus Abdominalis*. Patient is reported to have been sick for ten or twelve days; premonitory symptoms, such as loss of appetite, feverishness, headache and sleeplessness, preceding. He looks exhausted, emaciated, and stupid; eyes sunk; vertical wrinkles on his forehead; lips dry, parched, and covered with a layer of a thick black mass; tongue and gums covered in a similar manner; respiration hurried, 44; mucous râles all over the chest; no dull percussion sound; impulse of heart and arteries feeble; pulse accelerated, 140; liver normal, spleen enlarged; copious and frequent passages of yellowish-green, sometimes bloody masses; pain in the ileo-cæcal region. Fever is always increased in the night. Delirium will set in early in the afternoon and continue to the following morning, with but few and short interruptions. In these lucid intervals the mental faculties of the patient are very low; his comprehension clouded, and his answers very slow, and often erroneous. The case presented, therefore, is one of a severe form of typhoid fever, such as usually met with in advanced, but seldom in infantile or juvenile age. Typhoid fever is generally a mild disease in early age; neither the symptoms nor the pathological alterations found at post-mortem examinations, nor the mortality, being at all similar to those observed in advanced age. Real typhoid ulcerations are seldom met with; the patches of Peyer will often be found infiltrated; but generally but single follicles will be affected, and their infiltration will be absorbed, or the follicle, bursting into the cavity of the intestine, will return to its normal condition without any cicatrization taking place. Ulcerations and pseudo-membranes on the mucous membranes of the pharynx, œsophagus, and larynx are rare exceptions, although others are on record similar to that of Dr. Mall, in which on and after the eighth day of the disease, in a little girl of six years, pseudo-membranes showed themselves on the mucous membrane of the nose, and went down into the larynx, mouth, œsophagus, stomach, intestines, and vagina. I have myself been present at the examination of the body of a girl of four years, in which the whole length of the œsophagus was covered with pseudo-membranes to such an extent as to nearly fill up its lumen.

Of the symptoms of typhoid fever in early age the most important

are the enlargement of the spleen, diarrhœa, and meteorismus, but they are not always found. Fever, accelerated respiration, and bronchial catarrh are often found, but are not pathognomonic. Intestinal hæmorrhages and chills are rare occurrences; deliriousness, somnolence, and nervous symptoms generally are not frequent. Eruptions on the skin, being so frequent in adults, are rarer in this age. Severe complications, as parotitis and phlebitis, are uncommon; but during convalescence complications are found oftener than in adults, with other exanthematous diseases, as variola, varioloid, morbilli, and scarlatina. The usual termination of infantile typhoid fever is greatly more favorable than in adults, although its duration is not confined to certain limits; sometimes a few weeks, sometimes several months being necessary for its full course. The prognosis, therefore, is usually a favorable one, inasmuch as the symptoms are not very severe and exhausting, and the local anatomical alterations are not of such a character as to imply severe and obstinate consecutive diseases; but it will greatly depend on the nature of the epidemic, the circumstances of the patient, the age (patients from the first to the fourth year of life being more liable to die) and the sex, (males being more severely affected.)

It is a curious fact that sometimes there will be found epidemics of typhoid fever, in which adults and children will suffer in equal proportions; others in which adults, others again in which children will be affected almost exclusively. Of the cases collected by Prof. Lebert, ten per cent. occurred in individuals under fifteen years of age. In but very few of these severe pathological alterations were found; in a number none at all; even at the age of fifteen the local intestinal changes had not taken place. Nevertheless, all these cases were undoubted cases of typhoid fever. The case before us is evidently one of a severe nature, the symptoms being those of unmistakable typhoid fever, as found in adults. As the patient is already now, in the first period of the disease, nearly exhausted, his fever very high, and his nervous power very low, the prognosis is pretty unfavorable. There is scarcely any hope without his being sent to a hospital, where his strength can be better kept up and his system generally be better supported than under his present circumstances.

152. Francis G., æt. 2 years, 6 months. *Catarrhus Gastro-Intestinalis. Febris Remittens.* Patient has been well until, some six weeks ago, he fell sick with a number of symptoms, attributed to the influence of "cold." He coughed, was feverish, his respiration was shortened, hurried, and his chest appeared to be sensitive to the touch.



There cannot be a doubt but that the case was one of inflammatory disease of the lungs. Patient appeared to rally a short while afterwards, but never recovered his former strength and general condition. He remained pale, restless, and feverish; his skin became dry and pale, a scanty desquamation of small scales taking place from time to time. His bowels became irregular, having three or four passages of greenish, or mucous, or serous masses, very seldom tinged with blood. His appetite was bad; no particular food relished in preference to any other kind; thirst increased, especially in the afternoon and during the night. Pulse is accelerated; at 4 p. m., 136; respiration superficial, but its number is proportioned to the pulse—40. Child very much emaciated; cheeks and eyes sunk; veins of temporal region swelled; face a little flushed. Extremities very thin, the skin hanging loose and flabby over the bones. Abdomen inflated, a little sensitive to the touch. Percussion yields a tympanitic sound all over its surface. Examination of the thoracic organs shows no anomalies whatsoever; respiration is very superficial, from the general muscular weakness of the child. Respiratory murmur vesicular, with the puerile modification of this age; percussion sound sonorous. The fever is said never to leave the patient entirely. It is highest in the evening and night, less in the morning, and will begin to rise again early in the afternoon. Thus, it bears the characteristics of what is called remittent fever, and this is the diagnosis with which patient, who has been under medical treatment for some time, was presented for advice.

We are in the habit of applying the term of remittent fever to a feverish disease in which the principal symptom, the fever, shows some peculiar characters. As in this case, it will never be absent; but while the lowest rate of pulsations will be from 80–100 in the morning, it will rise to 120–140–160 in the afternoon, evening, and night. At the same time the temperature of the skin is increased, cheeks flushed, and thirst intense. It has been stated as a characteristic of remittent fever, that it is very obstinate, and will resist the action of medicinal agents for some length of time; others have considered it as kindred to intermittent and typhoid fever, its nature being considered to be eminently malarious. Others, again, have sought for the seat of remittent fever in disorders of the intestinal canal, catarrhs of the upper or lower portion; and a number of authors describe the abdominal symptoms in preference to any other. Rilliet and Barthez have even discarded the name of remittent fever, preferring that of gastro-intestinal fever; they evidently being of the opinion that the local symptoms pointing to a disease of the mucous membrane of the

intestinal canal, and especially its follicular apparatus, are of prevailing importance. Moreover, a number of cases of inflammatory diseases of the thoracic organs, general, and peritoneal, and meningeal tuberculosis, have been described as remittent fever; and certainly the more obscure a disease is, the more inclined we shall be to consider one of the prominent symptoms as the real disease. The principal symptoms of what is mostly described as remittent fever, such as high temperature, vomiting, loss of appetite, thirst, furred tongue, in fact, the whole number of "gastric" symptoms, will be found more or less in every feverish disease, and most in such the nature of which is so severe, and the danger so imminent, that it is of the utmost importance to arrive at a correct diagnosis at once. A very minute examination of the thoracic viscera, and careful attention to meningeal and cerebral symptoms, will generally correct the diagnosis; but a number of pulmonary inflammations and brain diseases have certainly been mistaken for remittent fever. Tubercular meningitis, particularly, is often mistaken for some gastric or intestinal disorder, vomiting being one of the first and most constant symptoms; even the well-known picking of the lips and nose is found in tubercular meningitis, though it is believed by the public to be pathognomonic of "worm disease," and found present by physicians in all and any diseases of the gastrointestinal canal.

Diarrhœa is not at all a constant symptom of remittent fever, costiveness taking its place sometimes in the descriptions given by the authors. There are even a large number of cases in which there are said to be no prominent gastric or intestinal symptoms, but which are attributed to malarious influences, as above stated, and would be called intermittent fevers, but for the absence of intermission in the fever. There are others, again, which are described with the symptoms of typhoid fever, but distinctly stated not to be typhoid, but remittent. We know, however, that the range of the symptoms attending typhoid fever, particularly in early age, is very large, and their severity very different, and that there is no reason to change the name of a disease just because there is not such an assemblage of fearful symptoms as we sometimes find. We further know, that there is scarcely any disease, which, notwithstanding all its regularity, will, in infantile age, exhibit so many differences as intermittent fever, either as to the time and duration of the attack, or the prominent symptoms. Pulmonary and cerebral symptoms are not unusual in intermittent fever in children; the stages of the attack differ greatly, and their time and duration are not certain. Thus, if we feel inclined to believe in the exist-

ence of remittent fever, as kindred in nature or appearance to typhoid and intermittent, we really do not know where the one commences and the other ends. Some unmistakable characteristics ought to be found in every complex of symptoms which is to deserve the name of a disease in the indices of our text-books. Had we a right to give the same name to a symptom, prominent though it be, which may be equally found in intermittent fever, typhoid fever, acute gastric catarrh, intestinal catarrh, first stage of pneumonia, tubercular meningitis, rheumatic fever, and, in fact, all such diseases as are apt to last for some time, and be connected with a protracted and high fever? It appears to be more rational, and more in conformance with the anatomical tendencies of our age, to regard the remittent, as any other character of a fever, as depending on the nature of the anatomical lesion. This century has long endeavored to get rid of those entities called diseases, the seat of which nobody knew, nor cared for; unless we have a positive anatomical lesion by which a fever like that in our case can be explained, we have no right to take it as the essence, the principal nature of a disease; and even if we consider remittent fever as a malarious disease, belonging to the class of intermittent and typhoid fevers, we shall scarcely be justified in resorting to the assumption of a new name, for symptoms which are not new, nor different in their nature, but are slightly at variance with what we generally see. We ought not to forget that nature is not so uniform as our knowledge, ideas, and prejudices.

I therefore believe that, in some future time, the term of remittent fever, at the head of special chapters, will no longer be found. As to our case, we have no reason to assume any other cause of the fever, emaciation, and exhaustion of our patient, but the protracted and general catarrh of the intestinal mucous membranes; preceded, moreover, by an inflammatory pulmonary disease, which itself had its share in the anæmic and weakened condition of our patient. To give anti-febriles in such a case, without attending to the local lesion of the gastro-intestinal canal, would prove unsatisfactory. The stomach would scarcely tolerate, at all events would not digest, remedies given in sufficient dose to check the fever, if it could be thought possible to remove the fever without getting rid of its cause. The indications are clearly these: 1, To suppress the catarrh of the mucous membrane of the intestine; 2, To improve the digestive power of the stomach, which is also in a catarrhal condition; 3, To improve the general condition of the child by digestible food. Treatment: According to the child's appetite and its expected improvement, beef-steak, raw beef, beef-tea,

milk, nitrogenous food generally. R.—Subnitrat. bismuth., ʒj.; sulph. quiniae, gr. xvij.; acetat. plumb., ʒj. M. f. pulv. Div. in p. æq. No. xxiv. D. S.: Four powders daily; and Pulv. Doveri, gr. iss., every night. The child improved considerably in the course of a week, diarrhœa disappearing, appetite returning, and sleep being sounder and less disturbed. Exactly the same treatment was followed up for two or three weeks, with perfect success.

153. Sarah Jane H., æt. 3 years. *Palatum Fissum Congenitum*. Patient is presented for the entire absence of articulation, the cause of which anomaly is readily found on the first inspection of the mouth. The soft palate is cleft in its median line from the posterior margin of the hard palate down to the uvula, which is divided into two equal halves. The child being well developed otherwise, no other cause of the anomaly complained of need be sought for. Artificial junction of the two halves of the soft palate is evidently indicated. But the operation of staphylorraphy is such a difficult and tedious one even in the adult, requiring an unusual amount of self-control in the patient, that it cannot be thought of before the patient has attained a certain age. We are not, however, deprived of all means of curing this defective development, since the French medical literature has presented us with a pamphlet of Dr. Cloquet's, in which this eminent surgeon publishes his experience of curing congenital cleft palate by means of the solid caustic. He publishes a few cases in which he succeeded, by frequent cauterizations of the ununited margins in their whole length, in bringing about granulations, and finally cohesion and a perfect cure. The same plan has been followed by me in the case of a vesico-vaginal fistula, operated upon in the usual way with but partial success. A fistula of about a quarter of an inch remained unclosed after the removal of the silver wires; it has been cauterized five times since, in intervals of from four to five weeks only, with a very good success, taking into account that the vesico-vaginal wall is a very thin one in this case; with such a success, indeed, that now already the lady is enabled to hold her urine for hours. We, therefore, may expect this case to be a fit one on which to try the method alluded to; the intervals between the single cauterizations having to be shorter than in the case of vesico-vaginal fistula, in which a new cauterization was not resorted to before it was certain that no further improvement would take place after the preceding one. (Up to the day of writing this report, during a period of three weeks, cauterization with the solid caustic has been performed three times.)

154. William S., æt. 2 months. *Stomatitis. Parotitis Secundaria*.

A slight swelling has been noticed in front and below the left ear, for two weeks; it has gradually increased, until the lobe of the ear appeared turned outward and elevated, and the face was greatly disfigured. Fever pretty high; patient salivating much; mucous membrane of mouth and pharynx injected and swelled, and covered with a large number of superficial ulcerations; odor, foetid. Treatment: R.—Iodid. sodii, ʒss.; chlorat. sodæ, ʒij.; aq, ʒjss. M. D. S.: Half a tea-spoonful three times a day. Further: Tinct. iodin., externally, twice a day.

155. Walter H., æt. 8 months. *Catarrhus Meatus Auditorii Externi*. No perceptible cause, except uncleanliness, and the child at the same time being in the full progress of general development. Treatment: Injections of water, and of R.—Sulphat. zinci, ʒj.; aq. ʒiv., four times a day.

156. Mary M., æt. 9 years. *Otitis Sinistra Interna. Surditas*. Muco-purulent discharge from the left ear. Tympanum gone, and discharge seen to fill the external ear. Patient suffers from this discharge and consecutive deafness since a severe attack of malignant scarlet fever, three years ago. Prognosis as to recovery unfavorable. Treatment to consist of mild astringents, locally. Acid. tannic., gr. iv. to aq ʒj.

157. Adelaide P., æt. 2 years, 2 months. *Conjunctivitis Scrophulosa. Blepharospasmus*. Examination could not be made, except under the influence of chloroform. Conjunctiva much injected and swelled; submucous tissue thickened; margins of eyelids tumefied; phlyctæous ulcerations, most of them collapsed and healing, on the conjunctiva scleroticæ; photophobia intense; cornea not affected, although the process has gone through a course of six months. Treatment: Cauterization of conjunctiva with solid nitrat. argenti, and neutralization by means of chloride of sodium; and embrocations to eyebrows, temporal and frontal region, four or five times a day, of a particle of the following ointment: R.—Ungt. hydrarg. ciner. fort., ʒj.; extr. belladonna, ʒss. M. f. ungt.

158. John K., æt. 2 years. *Conjunctivitis Trachomatosa*. Both eyes affected. Treatment: Cauterization with the solid caustic and neutralization.

159. John McM., æt. 2 years, 9 months. *Abscessus Galeæ Aponeurotica*. Four large abscesses on the head of a healthy boy, after a similar one in the submaxillary region had broken and healed up. Incision.

160. James C., æt. 6 years. *Catarrhus Laryngis*. Patient has had scarlet fever four months ago, there being still the signs of diphtheritic ulcerations on his tonsils. Mucous membrane of the pharynx

thickened, and still livid. Auscultation and percussion give normal results. Patient feels well; is hoarse, but coughs from time to time, especially after awakening early in the morning. The objects of treatment are reduction of mucous membrane and submucous tissue to their normal condition, and suppression of the superabundant secretion of mucus. Treatment: R.—Extr. cubeb. æth., ʒjss.; syrup. simplic., ʒj. M. D. S.: Half a tea-spoonful three times a day, and the external use, over the larynx, twice a day, of tinct. iodin.

161. Ellen McC., æt. 7 years. *Dentes Anomali. Caries. Herpes Circinnatus*, (on left shoulder.) The right central upper incisor was protruding from the gums in its whole length, the root being unabsorbed, but the whole tooth, as far as it is uncovered, carious. Behind it the permanent tooth has cut long ago. It is extracted, as is also the left central incisor, which is carious, although no permanent tooth is visible. In this one the root is already absorbed, proving that the corresponding permanent incisor was in its right place directly above and exercising the normal, slowly absorbing pressure, whereas in the former case the permanent tooth had been pressing the deciduous incisor from behind forward. Ring-worm treated externally with R.—Sulphat. zinc, ʒj.; axung. porci., ʒvj. M. f. ungt.

162. James McC., æt. 10 years. *Cerumen Induratum*. Patient complains of hard hearing and a strange noise in his right ear. Indurated wax is found to fill up a portion of the external ear. Injections of water.

163. Daniel P., æt. 1 year and 9 months. *Pneumonia Chronica. Catarrhus Intestinalis*. The history of the case is very inaccurate. Patient, of healthy parents, is reported to have always been well with the exception of the last five months, during the larger part of which he has been suffering from mucous, or serous, light-colored or greenish diarrhœa, and from coughing. Of a feverish disease nothing is known. The physical symptoms, as far as the lungs are concerned, (heart being normal,) are the following: Mucous and sibilant râles to some extent over the whole chest; respiratory murmur diminished nowhere; over the left upper lobe sometimes very much like the bronchial. No prolongation of expiration. Dull sound on percussion over the upper lobe of the left lung, both anteriorly and posteriorly. Treatment: R.—Sulphat. quin., acid. tannic, aa., ʒj.; pulv. opii, gr. j.; and M. f. pulv. Div. in p. æq. No. xxiv. D. S.: Four powders daily. Diet generous.

164. Ann W., æt. 1 year and 7 months. *Pneumonia*, left upper



lobe. *Bronchitis*. Measles a month previously. Sulph. quin., gr. ijss., twice a day. Pulv. Doveri, gr. j., every night.

165. Edward D., æt. 4 years. *Bronchitis*. Oxysulphuret. antim., gr. j., every 3 hours.

166. Mary T., æt. 2 years. *Pneumonia Bilateralis*. Little coughing; very high fever; slight convulsions last night. Vomiting has occurred several times. Pain in left side of thorax; subcrepitant râles over left lung. No dull percussion sound; constipation. Tinct. digitalis, gtt. xij., every two hours. After three days the fever disappeared; no vomiting; not much coughing. Bronchial respiration nowhere, but dull percussion sound over left lung, upper lobe, anteriorly, and right lung, middle lobe, both anteriorly and posteriorly. R.—Sulphat. quin., gr. viij.; oxysulphuret. antimon., gr. xvj.; sacch. alb., ʒss. M. f. pulv. Div. in p. æq. No. xvj. D. S.: a powder every three hours.

167. Richard C., æt. 4 years. *Hyperæmia Spinalis*. Patient is reported to have always been well until a short time ago. Six weeks ago he complained of a severe pain in his back, corresponding with the upper lumbar and lower dorsal vertebræ, which could not be traced to any external injury. At the same time the powers of his lower extremities grew less, his knees would relax, and his feet would be thrown outward. The pain increased for a week, until the lower extremities were perfectly paralyzed. The sphincter muscles of both urinary bladder and rectum were not affected. The pain gradually decreased, but not so the paralysis, which remained stationary until a few days ago, after the application of a vesicatory to the affected part. The motory power, however, is still very little, no voluntary motions to any considerable extent being possible. Apparently the sensory nerves have, although affected, never been suffering in the same degree as the motory ones. Treatment according to the principles laid down previously, (Case 122.) R.—Extr. secal. cornut. fluid., Squibb, ʒss. D. S.: Ten drops three times a day.

168. Mary M., æt. 5 months. *Marasmus*. Patient was a healthy infant when born, since which time, however, she gradually lost flesh and strength. She has been fed on goat's milk, arrow-root, and farina, the mother having suffered from severe mastitis after confinement. Patient has a senile appearance; is very thin and emaciated; eyes, cheeks, and fontanels sunk; forehead covered with horizontal wrinkles; intercostal spaces and trigonum colli sunk; abdomen large; extremities very thin. The weight of the child hardly more than at birth; mucous membrane of the mouth of normal color; respiration a little irregular: 35–40. Expiration\*not prolonged, but mucous râles all



over the chest, changing their place from time to time, according to the child's efforts in crying. Between the scapulæ, on either side of the vertebral column, the respiratory murmur more of a bronchial character, percussion exhibiting at the same time a somewhat dull sound. No cough, nor hoarseness, but voice feeble in accordance with the general weakness of the patient. She has from three to five passages a day, sometimes greenish, sometimes serous or mucous, generally not preceded nor followed by pain. The case is evidently one of atrophy produced by vicious food; neither the goat's milk, nor arrow-root, nor farina agreeing with the digestive organs of the infant. It would be well if there was only a deficiency in her food as to quantity, as in those cases of infants who are nursed by their mothers, but supplied with less than their proper amount of food. Such children will be thin, emaciate, and voracious, will cry after leaving the breast, will suck all night, never being satisfied, because always hungry; but no symptoms of pulmonary disease show any deeper lesion, nor is there any diarrhœa indicating trouble of the digestive organs. They are simply cases of healthy children starving for want of food. In the case before us, however, there are plenty of nutritious elements contained in the food, but not in such composition as to be digestible in tender age and by wholly unprepared organs. Moreover, there is in arrow-root and in farina more amylaceous matter than, even if digested, would prove beneficial to the infantile organism. The irritation produced by indigestible ingesta on the mucous membrane of the gastro-intestinal canal will result in diarrhœa, and the loss of albuminous matter will increase the emaciation brought on already by defective assimilation.

It is in this case of the utmost importance to decide whether the general marasmus depends on the insufficiency of food only, or whether the pulmonary symptoms enumerated point to a severe general affection. Mucous râles with a normal percussion sound are found in a simple bronchial catarrh, as well as in tubercular infiltration; the absence of cough being in no manner a proof of the absence of tubercles. For tubercular deposits will sometimes be found exclusively, without coughing having given rise to any suspicion in this direction. Nor is the harsher respiratory murmur between the scapulæ a symptom of tubercular infiltration. Its occurrence on both sides appears in itself to indicate its occasional presence under normal circumstances. The respiratory murmur in early age is, indeed, a good deal harsher (puerile) in early age, and there is, for this reason, nothing surprising in the quality of the respiratory murmur. Even brouchophony

may be observed sometimes, in such cases, where the general emaciation and the little distance between the larynx of the patient and the ear of the examining physician change the usefulness and signification of the general symptoms. We furthermore know, that although the tubercular dyscrasia is not unfrequently found in early age, it is not so very frequent in the first year of life, when the majority of cases of atrophy resulting from insufficient and improper food occur. Of thirty one tubercular children in the Paris Foundling Hospital, Hervieux noticed but ten who were less than a year old. Nor are there other symptoms or indications arousing the suspicion that the intestinal catarrh in our case could be of a tubercular character, or the general emaciation and exhaustion depending on the same diathesis. There are nowhere swellings of glands over the surface of the body, which will always be found in individuals with scrofulous or tubercular predisposition. And finally, there is no case of tubercular phthisis known to have occurred in the same family. An older sister of our patient's, who had been so fortunate as to be nursed by the mother, is perfectly healthy and well-developed.

The treatment in cases like this is as clearly indicated as it is generally unsuccessful, because of its being neglected. Whenever it is possible to allow such children to return to the breast, they will generally recover very soon. Where this is impossible, the food must be as similar to the natural one as possible. Beef-tea, boiled milk diluted with water and mixed with a little salt and sugar, decoction of barley mixed with milk where there is tendency to diarrhœa, or of oatmeal gruel where there is a tendency to constipation, will generally prove better in those early months of life than any amount or number of medicinal agents.

(To be continued.)

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*A Case of Fibro-Cystic Encephaloid Degeneration of an Undescended Testicle and Bladder.* Operation by Prof. D. S. CONANT. Reported by WM. H. MARTIN, M.D.

On February 21st, 1861, Prof. D. S. Conant exhibited to the class of the Maine Medical School the patient, Andrew C. Smith, aged 17 years and 10 months, who presented a large tumor occupying the whole of the left iliac region. It was of ovoid form, its larger end superior, its long axis nearly parallel to Poupart's ligament. It was covered with normal skin, through which appeared numerous large veins. It measured in its longest diameter *seven inches*; in its transverse di-

iameter *five inches*, and projected from the abdominal surface about *four inches*. Palpation discovered both fluctuation and solidity. At the upper rounded extremity, anteriorly and posteriorly, fluid was unmistakably present; the base and body had a firm, resisting, obscurely lobulated, and evidently solid feel, while at the lower smaller extremity the fingers, passed deeply behind the tumor, distinguished the superior margin of the external abdominal ring, and appreciated the sensation still deeper of a sort of neck. The scrotum was occupied by only one testicle.

The history of the case, as ascertained at the first examination and elicited by subsequent inquiry, is as follows: The boy has always enjoyed robust health. His parents and all his family have been altogether free from any scrofulous or cancerous taint. The patient says that as long as he can remember, he has had but one testicle visible; but his father is very confident that when his son was seven years old his scrotum contained two testicles. In the early spring of 1858, (just three years ago,) having then no lump or swelling in the inguinal region or elsewhere, he received what he calls a kick from a playmate, who took him by the shoulders and dashed his knee forcibly into Smith's groin. The blow caused intense pain, of that sickening character that follows compression of the healthy testis. Smith became faint, reeled, and had to sit down. The pain continued severe for that and the following day, then gradually ceased. But with its diminution there commenced a swelling in the place of injury, which continued—how long exactly, he does not remember—but until a tumor had formed as large as a hen's egg. This remained stationary in size for two years, its other symptoms being entirely negative. In March, 1860, he took a very long walk, and soon after was attacked with violent pain in the tumor, followed by an immediate increase of size. He remained in his room one day, applied some domestic stimulant locally, and the next day the pain and stiffness subsiding, went to work in the factory as usual. But the tumor continued to increase, its growth being gradual and painless. The patient did nothing for it, and his parents were ignorant of its existence. In September, 1860, he mentioned its presence to a physician at W., who, without examining it, told him he was "*busted*," and ordered a snake truss, which was actually worn for some weeks. In November, the father became aware of the existence of the tumor, and consulted Dr. Ellis and Drs. Lincoln, father and son, neither of whom advised any treatment. In the same month, Dr. McKean, of Topsham, applied three blisters, with the effect of a rapid increase in size, and the development, appa-

rently, of a solid growth in the midst of what had previously been a uniformly fluctuating tumor. During all this time, the patient's health had not suffered, and he had been capable of active and continued exercise; even on the day that Dr. Conant saw him, he had been skating for several hours.

Prof. C., after making some remarks to the class, excluding from the diagnosis enterocele, abscess, and "hydrocele of an undescended testis," (which latter it had been pronounced to be,) contracted his diagnosis to one of two possible things: degeneration of the contents of an omentocoele, or fibro-cystic degeneration of a retained testis—most probably the latter. He then introduced an exploring trocar into the superior fluctuating part, and drew off nearly a pint of yellowish serum. This changed the form, but did not materially diminish the size of the mass. The rounded end collapsed, and the solid portion was thus brought into strong relief, its upper edge projecting sharply under the skin. Dr. C. announced that the only treatment worth attempting was removal, and appointed the following Saturday for the operation.

*Operation.*—After the boy had been with great difficulty brought under anæsthetic influence, Dr. C. made an elliptical incision, nearly nine inches in extent, in the direction of the long axis of the tumor. Dissecting off the flaps on either side, he laid bare the body of the tumor, and enucleated it as completely as possible. After gaining more room for manipulation, by opening one large and several smaller cysts, he found the neck to consist of a diverticulum or prolongation from the bladder, which either projected up through the external abdominal ring in the healthy condition of the parts, or was drawn up into this situation by the enlargement of the testicle during the progress of the disease. This complication had been mentioned to the class as of possible existence, but had not been certainly expected; and although it rendered the prognosis much more grave, did not, in Dr. C's opinion, modify the steps of the operation. Accordingly, after ligating the neck of the tumor, he applied the ecraseur, and with great readiness removed the whole mass of disease. There was no hæmorrhage after the separation, but a gush of urine followed pressure on the hypogastrium. The superficial epigastric and the spermatic artery required ligature; other vessels bleeding were controlled by torsion. The opening into the bladder was united by continuous suture, and the integumental wound was closed by seven or eight points of interrupted suture. A flexible catheter was introduced into the bladder, and the boy was put to bed. The operation, from the first incision to

the introduction of the last suture, occupied about twenty-five minutes.

*Progress of the Case.*—Saturday, four hours after operation. The patient recovered well from the effects of the ether, rallied completely from the shock of the operation, and felt no pain. Pulse 96.

Saturday, 10 P. M.—Condition the same; the urine that has been drawn off presents hardly a tinge of blood.

Sunday, A. M.—Pulse 100; condition otherwise unchanged.

Sunday, P. M.—Pulse 102; a slight tenderness and puffiness about the wound.

Monday, P. M.—Pulse 128, but not sharp or hard. A slight diarrhoea, which had existed up to the period of the operation, has given place to constipation, which Dr. C. considered might be the cause of the excitement of pulse, and now used some gentle means to relieve. No signs of urinous infiltration.

Tuesday, P. M.—Pulse 138, and yet no symptoms of peritonitis. A bloody or sanious discharge, which had heretofore been slight, now increased to profuseness. Still, no indication of infiltration of urine. Bowels not moved.

Wednesday, A. M.—Pulse fallen to 128; large doses of castor oil had been effective in producing evacuations during the night.

Wednesday, P. M.—Pulse 120; the urine looked well, though there appeared little probability of obtaining union by first intention. He was now able to pass his urine without a catheter, and as he suffered very much from the presence of the instrument, and especially from its introduction, he was permitted to go without it. From this time he continued to improve, his pulse falling to 90, and remaining regular; his general health good; the wound healing very kindly, and the ligatures all coming away before the eighth day. He was soon able to sit up, then to move about on crutches, and finally, to appear again before the class on Monday, April 1st, thirty-six days after the operation. The wound was nearly closed, his health was good, and he looked better than he did before the operation; the whole progress of the case having been in every respect satisfactory.

*Appearance of the Tumor after Removal.*—When all the cysts, to the number of seven or eight, had been opened and their contents discharged, the mass still preserved its ovoid form, and weighed about three pounds. On being laid open longitudinally, the appearance was that of two kinds of tissue; one cortical, and the other central or medullary. The cortical was about half an inch thick, and invested the whole tumor. It seemed to be of fibrous structure, and on being ex-

amined under the microscope, presented an aggregation of rather large fibres, interspersed with small, round, non-nucleated cells and granular matter. The central or medullary portion was soft, almost pullaceous in some places, and of a yellowish-red color, very much diversified by darker irregular streaks. At the smallest end, corresponding to the supposed position of the testicle, there was a distinct oval demarkation, measuring about two inches in its longest diameter, of a lighter color and softer consistence than the rest of the central portion. The microscope proved the softest portion of this oval to consist of nucleated cells, some caudate, others round, and of every irregularity of shape, mingled with fine granular matter and pigment-cells; the whole evidencing plainly enough the malignant nature of the disease.

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*Case of a Foreign Body remaining in the Trachea of a Child Twenty-three Months.* By N. W. BATES, M.D., Central Square, Oswego Co., N. Y.

On the 17th July, 1858, was called to a male child, seven months, of Mr. B. Ingerson, of an adjoining town, who had been taken suddenly about three days before with violent spasmodic coughing and dyspnoea. The mother first observed it retching and strangling as though choked, and on running her finger down its throat, imagined she felt some foreign substance, which she pushed downward. The older children having had heads of timothy grass to play with, she supposed it to be one or a part of one, and that it had passed into the stomach. But the spasmodic cough and wheezing respiration continuing at intervals, I was sent for, when I found the child exhibiting many signs of a foreign body in the air-passages.

In addition to the symptoms already mentioned, there was considerable febrile action present, with great general nervous irritability. These symptoms, however, yielded, after a few days, to mild antiphlogistic and sedative treatment; and as the other symptoms gradually improved both as to the frequency and severity of the paroxysms, I resolved not to further interfere, hoping the body, whatever it was, would be disintegrated by the mucus of the parts or in some other manner, and finally be dislodged. Thus the case continued, the child meanwhile growing, and enjoying passable health, until June 20th, 1860—almost two years—when, during a fit of coughing, brought on by crying, after a slight punishment by the father, during which it strangled, and appeared to exert itself with every muscle of the body,

there was a sudden discharge of a quantity of frothy mucus from the mouth, which the mother caught in her hand; and, on examination, there was found a head of timothy grass measuring one and three-eighths inches in length and one-eighth inch in diameter, entirely covered, except the tip of one end, by a viscid, ropy, dark-colored mucus, from which emanated a very putrid scent.

I forgot to mention, that soon after the accident the child's breath became very putrid and offensive, and so continued until the discharge of the grass-head, when it immediately and entirely disappeared. All the other symptoms now disappeared, and the boy has ever since been perfectly healthy.

### MONTHLY SUMMARY OF FOREIGN MEDICAL LITERATURE.

By DR. L. ELSBERG.

69. *On Non-Polarizable Electrodes.* By E. DU BOIS REYMOND. (Moleschott's Untersuchungen, VII., p. 119-164.)
70. *The Relation of the Color of Hair to its Mineral Ingredients.* By E. BAUDRIMONT. (Bulletin de l'Académie Imp. de Méd., XXIII., p. 986.)
71. *On the Sensibility to Pressure of the Skin.* By Dr. R. DOHRN. (Hentle und Pfeuffer's Zeitschrift, Third Series, X., p. 339.)
72. *On the Influence of Change of Atmospheric Pressure on the Human Organism.* By R. VON VIVENOT, JUN. (Virchow's Archiv für Pathologische Anatomie und Physiologie und für Klinische Med., Vol. XIV., p. 492.)
73. *The Effects of Great Cold on the Animal Economy.* By Dr. FELIX KRAJEWSKI. (Schmidt's Jahrbücher, No. 6, 1861, p. 339.)
74. *On the Effects of Lightning upon the Human Body.* By Dr. W. STRICKER. (Virchow's Archiv, Vol. XX., p. 45.)
75. *Action of Aniline on the Animal Body.* By Dr. B. SCHUCHARDT. (Ibid., p. 446.)
76. *Pathology of Asthma.* By G. H. KIDD, M.D. (Dublin Quarterly Journal of Medical Science, May, 1861, p. 292.)
77. *On the Employment of Sulphate of Alumina and the Sulphate of Alumina and Zinc.* By Dr. HOMOLLE. (Bulletin Général de Thérapeutique, March 30, 1861; L'Union Médicale, etc.)
78. *On the Use of Arsenite of Strychnia in Scrofulous Diseases.* By Prof. GRIMELLI. (Gazz. Sarda, 51, 1860.)
79. *Digitalis and its Preparations in Cases of Organic Diseases of the Heart.* By Dr. E. RICHARD PFAFF. (Bulletin Gén. de Thér., Feb. 18, 1861.)
80. *Dover's Powder in Cases of Phthisical Swrats.* (Gazette Méd. de Lyon; London Med.-Chir. Review, July, 1861, p. 176.)
81. *Two Cases of Poisoning by Agaricus Muscarius.* By Dr. MAUTNER. (Allgemeine Wiener Med. Zeitung, 8, 1861.)
82. *On the Cure of Scabies.* By Dr. METZL. (Ibid.)



83. *On the Position of the Parturient.* By Dr. ED. HOHL. (Deutsche Klinik, I., p. 13.)
84. *The Treatment of Orchitis Blennorrhagia.* By Drs. TIMERMANS, L. BERRUTI, etc. (Gazetta Sarda; Gaz. d'Orient, IV., 8, 1861.)
85. *Oleum Rorismarini and Tinctura Aconiti as Collyria.* By Prof. HOPPE. (Preussische Vereins Zeitung, N. F., III., 11, 1861.)

69. So-called polarization of the electrodes, *i. e.*, the electro-motory action established at the boundaries of the conducting liquid and the ends of the metallic multipliers, has always been a source of difficulties in electro-physiological and electro-therapeutical experiments. In 1854, Jules Regnault, and in 1856, Matteucci recommended various combinations as being unpolarizable, but neither of these distinguished physicists had sufficiently proved their non-polarizability, and practically none was known until Bois-Reymond has now incontestably shown, that no polarization whatever at the electrodes takes place in a combination of amalgamated zinc with saturated solution of sulphate of zinc. That this combination is easily and cheaply attainable is a great advantage, as its general employment is of incalculable practical importance for the progress of "animal electrical" and medico-electrical science.

70. Baudrimont has attempted to solve the question as to the cause of the various coloration of hair by analyzing the ashes of different specimens. From flaxen-colored hair he obtained 0.474 per cent. ashes; from red hair, 0.421; from black hair, 0.390; from chestnut-brown hair, 0.285; from white hair, 0.266 per cent.; 100 parts of the ashes consisted of:

	White Hair.	Flaxen Colored.	Red.	Brown.	Black.
Sulphate of Soda .....	22.082	33.177	18.425	} 42.936	59.506
" Potassa .....	1.417	8.440	7.542		
" Lime .....	13.576	.....	.....		
Carbonate of Soda .....	.....	.....	.....	10.080	.....
Chloride of Sodium .....	traces.	traces.	9.945	2.453	3.306
Carbonate of Lime .....	16.181	9.965	4.033	5.600	4.628
" Magnesia .....	5.011	3.868	6.197	4.266	2.809
Phosphate of Lime .....	20.532	9.613	10.296	10.133	15.041
Oxide of Iron .....	8.388	4.220	9.663	13.866	8.099
Silicic Acid .....	12.803	30.717	42.879	10.666	6.611

The amount of oxide of iron contained in 100 parts of ashes from gray hair was 4.155; light-flaxen, 2.403; fair, 4.981; diverse, 5.402; chestnut brown, 5.830; brown, 6.397; dark-brown, 3.413; and the author inclines to the opinion that the color of hair depends mainly upon iron salts, (iron coloring matter,) which seems to be the more

probable, as Lecanu asserted to have observed a certain relation between the color of the hair and the quantity of red corpuscles in the blood.

71. The experiments of Dohrn to obtain new data on the subject of sensibility to pressure of the skin were made with a delicate balance on the under surface of one of the scales, of which there was a small smooth metallic projection. Accurate weights were put on the scales, and so adjusted that this projection pressed on any part with, f. i., exactly the weight of one gramme. The pressure was then changed by very small fractional variations, (in one series increasing, in the other decreasing,) until a difference of pressure was distinctly appreciated. Experiments, among others, on a boy eleven years old did not confirm the presumption of the greater sensibility of the skin in children, though the author does not fail to remind us of the sources of error from want of attention of the child, etc. Most of his experiments refer to the upper extremity, and we extract the following conclusions, as drawn from the resulting tables:

(1.) Sensibility to variations of pressure steadily diminishes from the point of the fingers upward to the elbow. Thus, for instance, while an adult distinctly felt the diminution of 0.03 gramme from the gramme pressure at the first joint of the index finger on both the palmar and dorsal side, the pressure had to be diminished 0.99 gramme before any diminution could be appreciated an inch below the elbow-joint.

(2.) The palmar surface, in general, has greater sensibility than the dorsal.

(3.) Of the fingers, the second and fourth seem to be most sensible to pressure; the third and fifth least, and the thumb to be in the mean between these.

(4.) The radial side has a slightly greater sensibility than the ulnar.

72. Vivenot has examined the phenomena observable in man when exposed to sudden alterations of atmospheric pressure. Rapid and considerable *diminution* of pressure—as experienced by the ascent in the air balloon to the height of about 18,000 feet above the sea, or by the climbing of mountains of a similar elevation, connected with a reduction of pressure to one-half of what we are generally exposed to—is found to cause: 1. Increased evaporation from the lungs and surface of the body; 2. Increased oxydation, in consequence of the loss of warmth occasioned by the augmented evaporation; 3. Increased frequency of respiration and pulsation, the former being induced as well by the smaller amount of oxygen contained in a certain volume of air,

as also by the greater amount required in the formation of heat; 4. Congestion of blood towards the peripheric parts, and in consequence dilatation and even rupture of blood-vessels; 5. Diminished approximation of the corresponding portions of joints; 6. Diminished secretion of urine, as an effect of the increased evaporation. The observations on *increased* atmospheric pressure have been made in Tabarié's air-compressing apparatus, as it is used for therapeutic purposes at Nice, Montpellier, and other places, under the name "*bain d'air comprimé*." The author's inferences are based on researches made at Nice, on himself and four other male individuals. For the description of the apparatus, we refer to the essay itself. The experiments were made on eight successive days, between the hours of 12, at noon, and 2 P. M., before the principal meal, the mean temperature being  $11^{\circ}$  Cent., ( $51.8^{\circ}$  Fah.,) the atmospheric pressure in the apparatus amounting to  $1\frac{1}{2}$  atmospheres, (925.04 millimetres\* mercury.) The effects of the compressed air were: (1.) A decided decrease in the frequency of pulsation; the greatest decrease being 18 beats per minute, the average 10 beats. (2.) Diminution of the number of respiratory movements, amounting in the mean to 1.1 per minute. The influence, as well on the pulse, as also on the respiration, lasted beyond the time of the experiment; it seemed to be greater where the frequency of pulse and respiratory movements were morbidly increased. (3.) Diminished evaporation from the surface of the skin and lungs. (4.) Increased secretion of urine. (5.) Repulsion of the blood from the periphery, especially checking of congestive conditions in the periphery. The author further expresses the opinion, that the slight variations of atmospheric pressure occurring under usual circumstances, with change of weather, are of little influence on our feeling of health and strength, and that the phenomena frequently ascribed to these slight changes are due to other influences, as temperature, moisture, and winds.

73. Krajewski has written a very elaborate paper, which has received the prize of the Society of Polish Physicians at Paris.

By immersion of rabbits in liquids, cooled down to as low as  $-2^{\circ}$  to  $-12^{\circ}$  R., [ $27\frac{1}{2}^{\circ}$  to  $5^{\circ}$  F.,] he arrived at the following conclusions: (1.) Every considerable lowering of temperature under  $32^{\circ}$  F. leads to the inevitable death of the animal. (2.) The rapidity of death is in general proportionate to the degree of lowering of temperature. (3.) Individuality exerts an important influence, for all rabbits do not lose the same amount of heat with the same temperature at the same time.

\* A millimetre = 0.03937 inch, or 0.47 line.

But after fifteen to twenty minutes, general debility, with weakness of the extremities, especially the posterior, ensues in all, and respiration becomes more and more difficult. Some rabbits at first cry out piercingly, but soon sink with debility. The pulse becomes uniformly weaker, as also the heart's impulse. In only one of the animals convulsive movements were seen, and here dissection revealed in the left hemisphere of the brain a slight effusion of blood, (of the size of a pea.) In the others, the brain was only congested, and membranes strongly injected. The posterior parts of the lungs were equably congested, the arteries empty, and the right heart filled with dark coagula.

In relation to the influence of great cold on the peripheric parts of the body, the author has made the observation that freezing of parts which occurs so frequently in the human subject is a very rare exception in animals. He never found a frozen part except the ears of rabbits and the crests of cocks. These organs became rigid and very brittle. In consequence of reaction, frozen parts inflamed; but this inflammation never proceeded to mortification. Only once did the author see slight ulceration on a frozen cock's-comb. After immersion of the paw of a dog in a freezing mixture for three hours, there was found only a lowering of temperature in the part and a slight difficulty in running, all of which, after a few hours, passed off.

Animals running about freely can stand great cold without dying, and without getting frozen extremities. The author relates instances of horses and cows losing their way in woods, and running about for months in a temperature on an average from  $-8$  to  $26^{\circ}$  F., without other food than what they found under the snow. These animals, when found, had become very much emaciated, and had lost nearly all hair, but no part of the body was frozen.

According to the author, 694 persons die on an average from the effects of cold annually in the Russian Empire. In other European countries deaths from cold are rare.

All individuals do not equally withstand cold. The constitution, the manner of dress, the dryness or moisture of the air, and other circumstances, exert a great influence. All causes predisposing already to congestions of the brain, as abuse of alcoholic liquors, and also long fasting, sleepiness, debility from previous disease, &c., generally hasten the fatal issue. The observation of *Brambilla* that, under ordinary circumstances, one hour's exposure to great cold was frequently sufficient to cause death, is confirmed by the author's observations, made in Siberia. In Siberia it is generally taken for granted

that persons comparatively lightly clad, undertaking to march with the thermometer at from  $-30^{\circ}$  to  $-35^{\circ}$  F., can do so with impunity only for the first four [of their] miles, (lieues;) and when it happens that inhabitants in that country do not return from their excursions, their friends usually look for them in the snow, commencing at the fifth lieu from their starting-point. There have been persons, however, who have staid with impunity in snow and ice for two, three, or even five or six whole days; but such cases are always distinguished by special circumstances, and seem rather to strengthen than to invalidate the general rule. We must transcribe the main points of the following extraordinary case, related by the author, which, he says, is the more entitled to credence, as it was subjected to judicial investigation.

A Russian peasant, from the Province of Kursk, was caught by a heavy snow-storm, and buried with horse and sleigh. He was found living, after twelve days. First was found the corpse of the horse, over which the snow had formed so hard a cover of ice that it could scarce be broken with iron shovels and axes. From an opening a warm vapor was emitted, and on the ground the unfortunate man was lying asleep. On his name being called, he easily awoke. He had eaten nothing throughout the time named, only quenched his thirst from time to time with snow. He could give no account of the time he had been buried under the snow. Two toes of one and three of the other foot were frozen. The fingers of one hand, with which he had at various times attempted to work through the snow, were denuded of epidermis, but without any trace of frost. Not until after two months did this extremely debilitated man recover, apparently, at least, his ordinary health; but a few months later he entirely lost his eyesight.

The anatomical appearances in individuals dying from the effects of cold the author describes as follows:

(1.) Rigor mortis is generally more marked than after any other manner of death. The extremities and the protruding parts, as ears, nose, and toes, are very brittle, and break especially easy on transportation.

(2.) The brain and its membranes are strongly congested, the sinus filled with blood. Actual extravasation of blood is found rarely; serous effusions in the ventricles are met more frequently.

(3.) The posterior part of the lungs is usually greatly hyperæmic, and sometimes foamy fluid is found in the bronchii.

(4.) The heart contains coagula, especially the right side.

(5.) Bits of ice can often be felt in the subcutaneous vessels, and are sometimes found also in the cavities of the heart around the coagula, in the ventricles of the brain, and in the urinary bladder.

(6.) The general appearance of the cadaver is pale. The body having been brought into a warmer medium, and thawing having begun, the liquefied blood passes by exosmose through the walls of the vessels, and causes reddish stripes to be seen along the track of the vessels in the connective tissue. This appearance has been regarded by many, and especially Polish physicians, as a pathognomonic sign of death from freezing; but the author insists on the possibility of its occurrence after death from other causes. But as a certain sign, the author regards *the separation of the coronary and sagittal sutures*. Its presence can easily be made out by grasping the skull with both hands, and effecting an approximation and separation of the cranial bones. In five post-mortems after freezing, this was constantly met with; after death from other causes, never. This phenomenon he regards caused after death, and explains it as analogous to the bursting of bottles filled with water exposed to great cold. In doubtful cases of death from cold, he regards this as an excellent auxiliary for diagnostic purposes.

74. Stricker, after certain introductory matter regarding the nature of lightning, its conduction, general effects, &c., in which the views of several physicists are considered, passes on to the detailed relation of a great number of cases culled from the medical literature of various countries. From the particulars of these cases he forms a connected description of the usual effects produced on the human body, which is as follows. He supposed the person injured to have been either sheltering under a tree or to have been exposed openly. In the first case, the lightning in passing from the tree strikes the body on the neck or shoulder, causing a burn and much pain, with extravasation and congestion of the vessels over a broad part of the surface. From this a smaller stripe passes, running down to the nates, gradually getting less, and more superficial; but at the buttocks, where in the man the clothes fit tighter, the conduction is more intense. The lightning (1) either is conducted by the skin, thence towards the trochanter on one or both sides, the marks becoming weaker, and so on to the knee, where, owing to the tightness of the dress, it causes a deeper burning, runs along the calf, and then, if boots are worn, passes over and destroys them, or passes along the skin to the heel, and wounds it, and after piercing the shoe, makes a hole in the earth; often the lightning passes along the ankle. Or (2) the lightning may be con-

ducted along the trowsers, which it destroys, or pierces with only a round hole.

"When the lightning strikes a person freely exposed on the ground, then the head-covering is destroyed and the vertex smitten. From thence the conduction may be twofold—either (1) from the cranial bones to the brain, producing death by the simple or combined influence of the injury to the brain-mass, or by rupture of blood-vessels; or (2) along the skin. In the latter case the skin of the face and neck is almost always completely spared, and the lightning effects a considerable burn over the sternum; in some cases it enters the mouth, affects the teeth and tongue, causes bronchitis, loss of voice, &c. Proceeding downward, the track passes towards the inguinal region, only the shirt being sometimes torn, and then an interruption of conduction often occurs, occasioning deep burning of the groins, genitals, &c.; and occasionally we have mortal laceration of the intestines, or in milder cases, injection of the liver, spleen, stomach, &c. The conduction then is through the skin or clothing, or both, to the back of the foot, where a wound is produced. The burning of the hair is very remarkable, and this may happen without any injury to the skin.

The burning produced by the lightning varies from that of the cautery to a mere drying of the tegumental surface.

The general results of injury by lightning are—

(I.) In those killed, the rapid supervention of putrefaction and the dilatation of the pupils. The hæmorrhage from the nose and mouth is not sufficiently understood.

(II.) In those only outwardly injured (partly, perhaps, from fright.)

(1.) Excessive stupefaction.

(2.) Great alternate depression and exaltation, long-drawn inspirations, small, slow pulse, cooling of the skin, muscular debility.

(3.) Suppression of urine and constipation; "vomiting, loss of appetite, sometimes purging"

(4.) Great painfulness of the part affected, which increases for two days, and then declines.

(5.) On the uterus of pregnant women, no peculiar effect is produced; like any other fright, it tends to arrest existing menstruation.

(6.) Cataract and nyctalopia may possibly be a result.

75. Dr. Schuchardt made a series of experiments to prove the effects of aniline upon animals. Aniline is an oily liquid, of powerfully basic properties, obtained by the distillation of indigo, and the name aniline is derived from the specific name of the indigo-plant, (*Indigofera anil*.) The physiological properties of aniline are but little known,



but the researches of Dr. Schuchardt prove that it is a poisonous substance. The results at which he arrived are the following: Aniline may act injuriously on the animal organism, and in large doses may even cause death. Frogs introduced into a weak solution containing aniline, died in periods varying from a quarter of an hour to two hours and a half; and death was also caused by the introduction of aniline into the mouth, or into a wound in the back. Rabbits were also poisoned by this substance; a small animal being killed by fifty drops in six hours and a quarter, and a larger one by one hundred drops in four hours. In all the animals experimented upon, violent clonic and tonic spasms ensued after the application of the aniline, and continued almost uninterruptedly until death. There was also loss of sensibility, commencing at the lower extremities and extending to the upper, and the temperature of the body was also reduced. Wherever the aniline was applied locally, as in a wound of the back, on the stomach, on the posterior part of the tongue, or on the conjunctiva, appearances of irritation were observed, which are probably connected with the power possessed by aniline of coagulating albumen. The aniline was never detected in the urine, and it is probable that this substance is eliminated from the body, rather by the organs of respiration, than by the kidneys.

76. Dr. Kidd enters into the consideration of the physiology of the action of the bronchial muscles, and comes to the following conclusions:

(1.) That during the paroxysm of asthma, the chest is distended to the greatest possible extent.

(2.) That all the muscles of inspiration are in spasmodic action, (tonic spasms.)

(3.) That the bronchial muscles are muscles of inspiration, and associated in the spasmodic action with the other muscles of inspiration.

(4.) That breathing is carried on by the voluntary effort to aid the muscles of expiration, and that as soon as this is relaxed, the muscles of inspiration, like so many stretched bands of india-rubber, distend the chest again.

That the spasm of the bronchial muscles in asthma arises from some morbid action in the medulla oblongata, is to be inferred from the following facts:

(1.) The fact that the spasm affects an entire group of muscles. Now, Schroeder Van der Kolk has shown that muscles associated in action are supplied by nerves arising from special groups of mutually

associated and connected ganglion corpuscles. Disorder of this group would then manifest itself in the entire class of muscles.

(2.) Van der Kolk has also shown that the skin covering parts moved by muscles is supplied with sensitive nerves arising from the same segments of the spinal centre as the motor nerves of those muscles arise from. Dr. Salter has remarked, as an almost universal premonitory symptom of asthma, that there is itching of the skin under the chin, over the sternum, and between the scapulæ. This, it is evident, is a subjective sensation, and indicates an irritation existing at the roots of the nerves.

(3.) Paroxysms of asthma are observed to occur in cases of acute hydrocephalus, as in a case mentioned by Dr. Salter, and in one mentioned by Dr. Graves, where there were also general convulsions. In persons liable to epilepsy recurring at regular intervals, fits of asthma occasionally take the place of, or serve as substitutes for, the epileptic fit.

(4.) The state of the patient precluding the fit of asthma indicates an affection of the nervous centres. In one, there is mental exhilaration; in another, mental depression. A patient of Sir J. Forbes is awakened by convulsions in one foot and leg, and as soon as the asthmatic fit is developed, the convulsions of the extremity cease.

(5.) The exciting cause indicates the same. In one, cold water applied to the instep will cause an attack; in another, going to bed with a loaded rectum; sudden emotion, &c., &c. The latter will also check the paroxysm when fully developed. Hence it may be inferred that asthma depends on a morbid state of the medulla oblongata and spinal centres, which manifests itself by throwing the entire group of inspiratory muscles into spasmodic action.

77. The sulphate of alumina (which is not to be confounded with the common alum, a double sulphate of alumina and potash,) was introduced into medical practice by Dr. Homolle. It contains an excess of acid, a small portion of iron, and a little of the double sulphate; and in order to neutralize the free acid, which may burn the linen of the patients and injure the steel instruments of the surgeon, M. Homolle has proposed to add oxide of zinc, thus forming a double sulphate of alumina and zinc. This latter has a more energetic action on hetero-morphous tissues than the simple sulphate, and M. Homolle prefers it when it is desirable to apply it to a deep portion of altered mucous tissue, or to destroy an accidental growth. The affections in which it has been successfully employed are inflammations of the tonsils and pharynx, hypertrophy of the tonsils, polypus of the nasal fos-

sæ, ingrown finger-nail, scrofulous ulcers, nævi and vascular growths, inflammatory affections of the neck of the uterus, displacements of that organ, and lastly, cancerous ulcers. In many cases where the tonsils were so much hypertrophied as apparently to require excision, M. Homolle has observed the chronic enlargement to yield to the daily use of the saturated solution of the simple sulphate of alumina. Membranous diphtheritic sore throat, before the larynx was attacked, yielded to the same application, and in a case of polypus of the nasal fossæ, where the morbid growth had sprouted out several times after removal, the patient was finally cured by the same agent. Scrofulous ulcers, touched every day with the sulphate of alumina, began to assume a healthy appearance, their fungous growths being reduced and the cicatrization being promoted; and hypertrophic engorgement of the neck of the uterus, and erythematous, granular, or ulcerous inflammation of its lips, was rapidly improved or cured by the direct application of the double sulphate with the addition of injections of the same salt. In its direct action it favors the exfoliation of the morbid tissues in successive layers; it diminishes the ichorous discharge of the ulcerated surface, destroys the smell, and causes the secretion to resemble healthy pus, and diminishes or completely removes the lancinating pains which are peculiar to cancer. M. Homolle's conclusions, in reference to the use of the sulphate of alumina and the double sulphate of alumina and zinc, are the following:

1. These salts, used externally, may be ranked as modifying agents, occupying a place between cathartics and caustics. 2. They are particularly useful in inflammation of the tonsils and pharynx, and in the affections of the neck of the uterus; and 3. They possess, moreover, a special remedial power over cancerous ulcers, the progress of which they retard or modify, acting in this respect at once as caustics, disinfectants, and hæmostatics. They often succeed better than narcotics in relieving the pain peculiar to cancer, and they retard the development of the attendant cachexia.

78. Arsenious acid forms, with strychnia, neutral, acid, and basic salts. They are obtained by solving strychnia in water, saturated with the acid. On evaporation, prismatic crystals are formed. The basic salt has been with surprising beneficial results employed by Grimeili in one-thirtieth-grain doses, once to three times daily, in cases of scrofulous and strumous disease, cold abscesses, open cancer, spina ventosa, and caries of the joints. In open cancer, the remedy (mixed with flour) was strewed over the part in the same dose as when given internally.

79. Dr. Pfaff considers that digitalis certainly belongs to the class of narcotico-acrids, but as it contains two active principles—namely, *digitaline* and *skaptine*—it exercises two different kinds of action. Digitaline exercises its influence on the nervous system of the heart, the morbid activity of which it usually reduces. According to Dr. Pfaff, it acts by paralyzing the nerves of the circulatory apparatus; when, for instance, the pulse, after being morbidly excited, falls under the use of digitalis, from 100 in the minute to 30 or 40, it is because the abnormal activity of the heart and arteries has passed from one extreme to the other, and that a condition of morbid excitement has been succeeded by a kind of paralysis. It must be stated, however, that the depressing action of digitalis on the pulse is by no means constant, for certain delicate and sensitive constitutions exhibit a peculiar excitement of the circulation under the use of the drug. The action attributed to the *skaptine* is a stimulating one upon the venous and lymphatic absorbents, and upon the glandular system in general. It is thus that the diuretic action of the medicine may be explained; and although some authors have considered this effect to be peculiar to digitalis, it is only manifested in proportion as the absorbent function has been augmented by its administration.

With regard to the precise action of digitalis on the heart and arteries, M. Pfaff is convinced, after numerous experiments, that rather large doses of digitalis produce more or less increase in the activity of the heart, and that although, after the employment of small doses, the depressing action is manifested at the end of twenty-four or forty-eight hours, or after some days, yet that the phenomena of depression are not to be considered as primitive. As to the duration of this first period, or period of acceleration, it depends entirely upon the dose; large doses usually producing a more important acceleration, but one which does not last long, and is followed by a more prolonged diminution in the cardiac pulsations. In relation to the remarkable action of digitalis on the venous and lymphatic systems, M. Pfaff remarks that just as digitalis excites and then depresses the action of the heart and arteries, so does it exercise the most opposite influence upon the venous and lymphatic systems, depressing them first, and exciting them afterwards. In short, remarks M. Pfaff, digitalis acts, first, by accelerating, and secondly, by retarding the action of the heart; it acts in the same manner in relation to the stomach, but in a degree somewhat less marked than tartar-emetic; it diminishes diuresis, at first, and increases it afterwards; and lastly, it acts upon the sexual

organs in the same manner as upon the urinary organs; at first depressing, and then exciting them.

In the inflammatory diseases of the heart, as pericarditis, myocarditis, and endocarditis, M. Pfaff does not much approve the use of digitalis. According to his views, it should only be employed in cases where there is no congestion associated with the inflammation, or where the latter has been already reduced by suitable treatment, and then it should be given only in very small doses, as one-quarter to one-third of a grain of the powder, four times a day. In hypertrophy of the heart, M. Pfaff insists that the same prudence must be observed, because disturbance of the digestive function is easily induced in such cases. It is, therefore, in the organic affections of the heart, properly so called—namely, those of the valves and orifices of the heart—that M. Pfaff thinks digitalis peculiarly useful; in those cases the physician can scarcely hope for a cure of the morbid changes, and he is compelled to prescribe for symptoms only. But even in such cases, great precautions must be taken, for in insufficiency of the mitral valve, for example, there is often catarrh of the digestive canal or the genito-urinary mucous membrane; and if digitalis were employed in such a case, the cardiac symptoms might be relieved, while the secondary phenomena would be aggravated.

As to the preparations of digitalis, M. Pfaff considers that the *powder* is an excellent form for administration, but he prefers the *infusion*, prepared with from 1 to 4 grammes of the leaves, to 125 to 200 grammes of fluid, in the dose of four table-spoonfuls a day. The *decoction* often produces colic in a marked degree, but it possesses more diuretic properties than the other preparations. The *alcoholic tincture* has the same action as the infusion, but in a smaller dose it produces cerebral congestion and vertigo. The *etheral tincture* has the same effect, but the symptoms disappear on the production of symptoms denoting activity of the heart and arteries. M. Pfaff also considers that digitalis may be employed externally, in cases where it cannot be administered internally. He recommends a mixture of equal parts of chloroform and tincture of digitalis to be applied externally, or the powder of digitalis to be applied night and morning, on a blistered surface.

The general conclusions at which M. Pfaff arrives are the following:

1. Digitalis ought not to be administered in an increasing dose, but in a diminishing one.
2. The dose of the medicine must be reduced as soon as the paralyzing action is perceived on the heart and arteries.
3. The sedative action of digitalis in morbid excitement of the heart

is often prolonged for five or eight weeks. 4. Digitalis should never be continued in any form for more than six or eight days, and if, after a week's trial, the desired results have not ensued, squills or colchicum must be employed; these latter, as is well known, also act as sedatives to the heart. 5. In torpid subjects, it is convenient to commence the treatment by squills and colchicum, before administering digitalis. 6. In the greater number of cases it is advantageous, in order to avoid the inconvenient effects of digitalis on the digestive organs, to associate it with aromatics or tonics. 7. In aged persons, it is still better to associate it with cinchona. 8. In tuberculous subjects, digitalis should be associated with opium; in dropsical cases, with liquor potassæ and acetate of ammonia, polygala, squills, juniper, &c.; in plethoric persons, with cream of tartar, magnesia, sulphate of potash, and nitre; and in anæmic cases, with ferruginous preparations. 9. By following the employment of digitalis by the administration of arsenic, the cyanotic effects of cardiac diseases may often be considerably alleviated.

80. Dover's powder has been recommended in phthysical sweating by M. Descamps, who has found it uniformly successful. It might be doubted, on theoretical grounds, whether the Dover's powder, being itself a sudorific, would be likely to check undue perspiration; but according to M. Descamps, the effect has even surpassed expectation, the sweating being suppressed from the first, and the success of this mode of treatment is proved by the results of experience during a period of eighteen years. The mode of administration recommended by M. Descamps is the following: "We possess," says he, "several records of phthysical cases, in which the perspiration was arrested up to the period of death. The powder was generally given in the dose of fifty centigrammes (a centigramme is .1543 of a grain) in the evening at different hours, according to that which announced the commencement of the sweating; and not only was it always observed that it prevented this symptom, but it also diminished diarrhœa, allayed cough, and predisposed to sleep. It sometimes happened that the powder was vomited; in such cases the dose was divided into two parts, one of which was given in the evening, and the other during the night, when the patient was awoke."

81. A little girl, æt. 9 years, all at once commenced to behave like a drunken person: to run around the yard, quarreled with other children, and bit them. The mother found the child sitting in a chair as if in deep sleep; on being loudly called by name, she jumped up senselessly, and ran against her mother. Dr. Mautner found her half an hour afterwards in bed, unconscious, with closed eyes; nervous twitches

all over the body, especially hands. Opening the eyes, they were found rigid; pupils dilated, not reacting towards light; temperature of the skin somewhat increased; pulse full, and very frequent. As the diagnosis could not be made out at once, the author ordered cold applications to the head, sinapisms to the calves of the legs, and a purge of hydromel infantum.

About 11 o'clock at night the father of the child, æt. 62 years, also became maniacally excited, and could be restrained from acts of violence only by several strong men. In the case of the child, consciousness returned after five hours, after copious diaphoresis and two vomitings of the mushroom toad-stool, (*agaricus muscarius*, which the father had brought home, and which had been prepared as a dish;) in the father, perfect consciousness returned three hours after the fit of mania, and without vomiting. In the child, the symptoms of poisoning had manifested themselves after two hours; in the father after five hours. In the child there had been present dreadful delirium, with fear; in the father, religious delirium; and in both temporary blindness.

The main phenomena may be stated as—giddiness and reeling, of short duration, as in drunkenness, but visions and hallucinations differing according to individuality; loss of consciousness; mania, with greatly increased muscular power; finally, sopor, with slight nervous twitchings.

82. In a bottle of any size two-thirds full of olive or linseed oil, a piece of phosphorus is added, (about 3j. to the lb.) Over the mouth of the bottle a piece of bladder is tied, no cork; the oil is brought to the boiling-point in a water-bath, and the bottle, after all the phosphorus has been resolved into vapor, is well corked. On cooling, phosphorus falls to the bottom, and the oil is used by well rubbing it once daily into all the places affected. It is necessary that the patient should lie in bed entirely naked.

Of 80 patients, 35 were rubbed three times, 27 four times, 10 five times, 4 six times, and 4 twice. Thereafter, the skin regained its smoothness, and the eczema that had sometimes existed was soon healed.

83. In an able article on the Position of Women during Parturition, Dr. Hohl, after some preliminary matters, addresses himself to the following questions:

(1.) Is a particular position of any importance during pregnancy? Already this question is answered: Generally position is of no importance during pregnancy; but there are two exceptions. If (*a*) the fundus uteri is greatly inclined to one side, while no part of the



child can be felt on vaginal examination—and especially if the patient has previously already had to be delivered by version or other artificial means, on account of malposition of the child—it is advisable for her to lie nights on the other side, and to wear a bandage in the day-time; (b) when the patient suffers from muscular pains on one side, she should most of the time rest on the other side.

(2.) At what time, during parturition, is position of importance? Unless the circumstances already indicated are present, the position of the parturient during the first half of the labor is immaterial; if they do exist, they should be taken into consideration during the whole course of labor, especially when the presenting part lies high up. Aside from these, during the second half of the labor the position must be chosen with reference to the following two questions: the first concerning the requirements of nature on the parturient female to assist in the labor, and the second the mechanism of labor.

(3.) In what position can a woman in labor best assist herself? The voluntary assistance which she can give consists in forcible abdominal “bearing down” and fixation of the pelvis. If she takes a deep inspiration at the beginning of a pain, thereby giving the abdominal muscles a *point d'appuis* or support from the thorax, and at the same time presses her feet against an immovable body, and firmly grasps some object with her hands, she can well fix the pelvis as she pushes the body up with the feet, and, with the same amount of force, down with the hands; the abdominal muscles again receive a point of support from the pelvis, and the woman can bear down all the more forcible, as she has just taken in a deep breath, while the expanded lungs can take up more blood, which, in view of the congestion of the head during each uterine pain, may also be of some importance. Now as to the third question asked, it seems to Dr. H. to be beyond doubt that a woman can in the knee-elbow position not at all, in the position on either side only imperfectly, and on her back (with the upper part of the body lying more or less high, according to circumstances,) easiest and best aid in the labor.

(4.) In what position is the mechanism of labor least interrupted? According to Dr. H's experience, the position on the back, *per se*, never offers any interruption to the mechanism of labor; raising the pelvis and holding the fundus uteri upward by means of a towel, so useful in many cases where the relaxed abdomen greatly projects and hangs down, cannot be accomplished in the side position.

In cases of turning and extraction, there are also no objections to the position on the back, while in many cases there are objections to

that on either side. Occasionally, it is true, circumstances may render the side position preferable to that on the back, but Dr. H. *in general advocates the latter*, not denying, however, that sometimes in different cases of turning a mere change of position may lead to favorable results.

84. Dr. Timermans has submitted to the Academy of Turin a paper on the treatment of blenorhagic orchitis, by means of ice-cold lead-water, constantly applied. After discussing the various methods of treating orchitis, and reporting the details of seven cases, he concludes that these ice-cold applications do not, as had been feared, induce disease in other parts, (ophthalmia, parotitis, arthritis;) and that they are the more efficient the earlier they are employed. Rest, diet, and suitable position of the testicle are at the same time insisted on. Abstraction of blood is unnecessary; cachectic conditions of previous gonorrhœal gout form no contra-indications. Indurations of the cord are unaffected by the applications. The efficiency of the method is explained by extraction of heat from the inflamed parts, retraction of the testicle, puckering up of the scrotum, and increased contraction of veins.

Dr. A. Sella, commissioned by the Academy to investigate T's statements, bases a very favorable report on two additional cases, and sees the benefit of the astringent icy applications mainly in its chilling, anæsthetic effects.

Dr. Berruti's conclusions are: (1.) The treatment of orchitis proposed by Timermans is not new. (2.) It can with benefit be employed, but by no means for all cases. In commencing orchitis, and in mild cases, the use of ice may render abstraction of blood unnecessary; but in advanced and severe cases, general, and especially local blood-letting, deserves more confidence. (3.) Whenever cold is to be employed in these cases, the method of Curling (bladders with ice applied to the well-supported and raised testicle in the first days of the disease) is preferable to all others.

Dr. Mühlig gives nothing new in his article on the subject. Of the various modes of treatment recommended, he has had most success with the puncture of the tunica vaginalis, as recommended by Velpeau, and the methodical compression of the testicle with adhesive strips. The first method is, according to him, indicated in all severe cases; the latter in cases of less severity, and in the period of the decline of inflammation.

85. According to Prof. Hoppe, all external collyria act only by giving to the vessels an impulse of modified activity, either contracting

them, or the reverse. He makes no specific difference between the individual substances, (lead water, cold water, nitrate silver, red precipitate, laudanum, belladonna, fennel-tea, etc.,) and proposes ol. rosmarini and tincture aconite to combat hyperæmia of the lids, and even congestion internally. Of the aconite tincture, twenty drops are recommended to a drachm of cerate; and of the oil of rosemary, not more than one scruple to two drachms of liquid. [In cases where other means have been tried in vain, there are, we suppose, no objections in trying these too, as frequently a mere change is beneficial.]

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#### REVIEWS AND BIBLIOGRAPHY.

*A Treatise on the Practice of Medicine.* By EDWIN R. MAXSON, M.D., formerly Lecturer on the Institutes and Practice of Medicine in the Geneva Medical College. Philadelphia: Lindsay & Blakiston. 1861. Pp. 705. (Price, \$4.00.)

Partiality of an author for his production is as pardonable and as inevitable as the oftentimes more inexplicable "merit-seeing" of parents in their children. But the impartial critic is frequently in a quandary when he asks himself the question, *Why must this book have been published?*

Our learned German cousins describe a species of *Cacoethes Scribendi*, the etiology of which would indicate an extreme shortness of the mental alimentary canal, necessitating the excretion of the slightest morsel of knowledge, digested or undigested, very soon after ingestion. And if it shall become a settled fact, or rather a recognized fashion and established certainty, that every teacher or lecturer in any branch of medical science must "write a book on the subject," may Heaven have mercy on the poor reviewers, not to speak of the medical public at large. "Earnest solicitation of members of the medical class, for whose opinion I entertain the highest respect," alone, seems certainly at the present day no sufficient reason for adding another to the many—some excellent, some indifferent, and some useless—treatises on the Practice of Medicine that already exist. Dr. Maxson, judging from what he tells us in his preface, evidently, not only honestly intends, but also confidently believes his book to be a desideratum, an interesting and valuable work both for medical students and mature practitioners; and he must be prepared to give proof of the reasons "for the hope that is within him."

Such were the thoughts with which, after having duly read title and preface, and truly anxious to see how the frank avowal of independence and the self-sufficient confidence assumed had been sustained, we set about scanning the 700 pages before us.

Our author divides his work into fifteen chapters. The first, subdivided into five sections, treats of Disease, its nature, causes, symptoms, diagnosis and treatment. Disease is defined to be a deviation from health. "Man, as he came forth from the hand of the Creator, was a perfectly constituted being." "It is probable that if man had always obeyed the laws of his being, we might have escaped pain, disease, and death, and like Enoch and Elijah, 'having walked with God,' we should have been removed to a more elevated state or genial clime, and thus escape the really unnatural passage 'through the valley of the shadow of death.' \* \* \* \* It is unreasonable to suppose that accidents or even the elements in nature which now appear to produce disease, would have harmed man if he had retained his original purity and always obeyed the laws of his being." The human body might then have "probably retained the health and vigor of youth, never decaying, never wearing out, and thus man, as I have already suggested, might probably have remained *physically immortal*." But "we must take the human body as it is; bruised and shattered by the numberless deviations from the laws of health since the creation of man, every one of which has tended to mar this handiwork of God, till we now inherit scarcely constitution enough to enable us to live on, even with prudence on our part, to seventy years; while those who are imprudent, or inherit a greater degree of physical degeneracy or imperfection, may scarcely continue even a miserable existence through the periods of youth, childhood, or even infancy." "We must take, then, the human system in the most perfect state in which we find it at the present day, together with our imagination of what it should be, as our standard from which to calculate disease; and we should bear in mind, also, that man is a triune being, with body, mind, and a moral nature, and that a healthy physical organization is indispensable to the perfect development of the intellectual and moral man," [as well as that healthy intellect and morality—our author might have added—are indispensable to perfect physical human health.] "A person may be said to be in health when the fluids and solid tissues of the body are in such a state that all the functions of the body are carried on harmoniously; taking into account, of course, hereditary physical imperfection, or predisposition to disease. But all variations from this standard, involving a de-

rangement of structure or function, and causing suffering or endangering life, we may call disease." Again, "we may conclude, then, that *disease* consists in a derangement of the system, either *general* or *local*, involving more or less the *fluids* and *solid tissues* of the body, and especially the *blood* and *nervous system*, and embracing every possible deviation, whether *organic* or *functional*, from the standard of health."

The causes of disease are divided into predisposing and exciting, with the qualification that every agent or influence which is capable of predisposing the system to disease, is capable, under other circumstances, of acting as an exciting cause of disease, and that the exciting causes, under favoring circumstances, predispose the system to disease. As predisposing causes are named and separately discussed—Hereditary Predisposition; Filth; Food, if it be improper, too much, too little, or taken irregularly; Improper Clothing; Licentiousness in all its forms, as Masturbation, Onanism, and Excessive Sexual Indulgence; Intoxicating Liquors; Tobacco, and Anger. As exciting causes: Heat; Cold; Water; Electricity; Light; Aerial Poisons, as carbonic acid, carbonic oxide, carbureted hydrogen, etc.; Vegetable poisons, of which the author says: "It is not necessary for me to enumerate them here, as the good sense with which God has endowed His creatures generally enables them to avoid their pernicious influences, if we except one, and that the most disgusting of them all, '*Tobacco*,'" Mineral Poisons; Parasites, animal and vegetable; Koino-Miasmata or Malaria; Idio-Miasmata or Animal Effluvia, *i. e.*, "the noxious effluvia which result from the decomposition of exhalations and excretions from the bodies of persons of filthy habits, [feces, urine, saliva, sweat, etc.] when crowded together in filthy, confined apartments, etc.;" the author not, however, including under this head "those emanations which are the result of a secretory process, and have the power of producing the same disease in others by which they have been produced, namely, the contagions;" Contagion, which the author defines to be "any product of a peculiar disease, [which "may be the product of secretion or exhalation,"] whether in a solid, fluid, or aeriform state, which is capable of producing the same disease in another person, and of propagating itself as well as the disease of which it is the cause and effect, 'through any number of unprotected individuals,' the disease thus propagated being properly called contagion;" Endemic Influences; and Epidemic Influence.

Section III. contains a meagre account of the "general symptoms developed in diseases of the nervous system, the digestive system, the

circulatory system, the respiratory system, of the eye, the ear, the skin, the urinary organs, and the genital organs;" and the next section general directions—many of them rather indefinite—as to the diagnosis of disease.

We then come to the last section of Chapter I., to the Treatment of Disease; and this is the first paragraph: "By *treatment of disease*, or *therapeutics*, I mean here, to attend upon or alleviate the sick; and also the *modus operandi* of remedies, as well as the rules for applying them, etc. I wish, however, to offer only a few general suggestions here, and will therefore consider, first, the duties of the physician in attending upon the sick, and will then inquire into the best method of fulfilling indications, etc.; and lastly, give some general rules which may serve as a guide in administering or applying remedies, etc."

After dwelling on the necessity of a correct diagnosis, our author properly insists on the principle that "nothing should be prescribed, as a remedy, without first getting a clear Indication." "By *indications*, I mean any manifestation offered by disease of what is proper for its removal." "Indications, then, may point to any remedial measure, such as removing the cause of the disease, correcting bad habits, exercise, fresh air, cheerfulness, and, in fact, to any and everything that could tend to restore health. When, then, indications are once discovered, they should be fulfilled, and, in just so far as they can be, without the administration of medicines. For medicine, it should be remembered, is at best little better than a *necessary evil*. \* \* \* \* Among the most prominent indications that are liable to be presented, in diseased conditions, are, for depletion, repletion, dilution, stimulation, sedation, revulsion, suppression, alteration, chemical action, mechanical influence, etc." Some practical suggestions are thrown out in relation to the best method of fulfilling each of these.

A few words on the necessity of knowing thoroughly the various classes of remedies and individuals of the *materia medica*; of care to be taken that genuine drugs are exhibited, that they be given as little combined and as palatable as possible, and that the dose be well proportioned to the age, etc.; of writing prescriptions plainly, and of having medicines put up and administered by proper persons; of keeping patients quiet, and guarding against intruding friends; and of not starving patients, "even though they may be laboring under acute disease," ["If, then, as is often the case, there be no appetite for solid food, broths or milk, diluted with an equal part of toast-water, may be given; and as soon as the appetite returns for food, toast, or

some other suitable form of food, should be given, at meal hours, through the whole period of convalescence,"] end the first chapter.

In the second chapter the author takes up the subject of irritation, meaning thereby "a morbid disturbance in the vital action, in the whole or any part of the system, short of inflammation, involving primarily the nerves, and being attended with more or less pain." This is traced to its termination in the re-establishment of health, *i. e.*, resolution; and also to its morbid result, *i. e.*, congestion. Congestion is defined to be "an undue accumulation of blood in the extreme arteries, veins, or capillaries of any organ or structure of the body." After briefly alluding to its nature, causes, diagnosis, and treatment, and stating that "congestions, then, whether active or passive, or more especially local, and not attended with any very marked general exaltation or depression of nervous, vascular, or vital power, is liable, if the cause be removed, to terminate by resolution; or it may pass on to pulmonary or cephalic apoplexy; or if the congestion be active, it may be followed by active, or if it be passive, by passive inflammation," the subject of inflammation is noticed in somewhat greater detail. Its various symptoms or phenomena and diagnosis; its causes, morbid appearances, nature, and the theory of inflammation; its terminations, modifications, and varieties, and finally its treatment, our author successively discusses by no means exhaustingly, even in general principles, still rather ably. The reader may already have observed that our author sees in the nerves of any part the first point attacked, when a cause which may produce inflammation acts upon that part. "The nerves of that part become irritated, and this irritation produces either immediately or mediately a dilatation of the small arteries, veins, and capillaries of the part. If contraction first takes place, as it may in a sthenic condition of the system, there is at first a paleness of the part, caused by the blood being in part forced from the small vessels. But if dilatation occurs at once, as it is likely to do, in an asthenic state of the system, no paleness of the part occurs; but we have developed redness, heat, pain and swelling." At this point of our review we may already state the fact which became entirely evident to us, after a careful examination of the whole book, that, throughout, our author holds plain common-sense views, differing but little from those recently held by the majority of educated and observing physicians, on both pathology and treatment, while he seems ignorant, as yet, of cellular pathology, and the latest researches and developments in physiological and pathologico-anatomical science, as well as of the *full extent* of the remedial resources



of the rational, scientific physician, who is "up" to the present day and hour.

In the first two chapters our author has prepared the way for the profitable consideration, on the same basis, of the pathology, causes, and phenomena of fever; and to this he devotes, in three sections, the third chapter; while in the next two he takes up the description and treatment of individual fevers; namely, in Chapter IV., headed General Fevers: 1. Intermittent; 2. Bilious Remittent; 3. Simple continued; 4. Enteric continued; 5. Typhus continued; 6. Yellow Fever; 7. Plague; 8. Diphtheria; and in Chap. V., Exanthematous Fevers, including: 1. Variola; 2. Vaccina; 3. Varicella; 4. Rubella; 5. Scarlatina; 6. Erysipelas; 7. Purpura; 8. Glanders; and 9. Dengue. Chap. VI. is headed General Inflammatory Diseases, and treats in separate sections of Acute Rheumatism, Chronic Rheumatism, and Gout. The last-mentioned ends the list of general diseases.

Entering upon the examination of the remaining nine chapters, which are devoted to local diseases, we meet with a peculiarity of the work to which the author himself refers, as follows: "It will be seen that I have glanced at the anatomy and physiology as I have taken up the diseases peculiar to each part of the human system. This I have done in part to make the work more valuable to those practitioners of medicine who have not time to review anatomy and physiology; but more especially to keep the mind of the reader fixed on the diseased part and its conditions, thus rendering the work not only more valuable, but I trust more interesting." The attempt to give in so small a compass an anatomical description of systems and organs in connection with their diseases, and the remedies for these, certainly savors a little too much after *vade-mecum* style for a systematic treatise, and will, we fear, be condemned by many of those of our profession whose opinion should, and does, carry with it the greatest weight. But a just appreciation of the actual needs of the great mass of practitioners induces us to look very favorably on this feature of the volume. In the execution of this plan, we greatly miss, however, what would have been most particularly welcome, namely, the accurate histological anatomy, especially such as has been recently positively determined. Chap. VII., headed Diseases of the Nervous System, opens with Cephalalgia, and proceeds with, 2. Meningitis; 3. Cerebritis; 4. Tuberculous Meningitis; 5. Spinal Meningitis; 6. Myelitis; 7. Cerebro-spinal Meningitis; 8. Apoplexy; 9. Paralysis; 10. Epilepsy; 11. Catalepsy; 12. Chorea; 13. Insanity; 14. Mania-a-potu; 15. Eclampsia; 16. Hysteria; 17. Spinal Irritation; 18. Tetanus; 19. Hydro-

phobia; 20. Neuralgia; 21. Amaurosis; 22. Singultus. Chap. VIII. treats of the Diseases of the Digestive System, viz.: Sect. 1. Stomatitis; 2. Glossitis; 3. Pharyngitis; 4. Tonsillitis; 5. Parotitis; 6. Esophagitis; 7. Acute Gastritis; 8. Chronic Gastritis; 9. Cancer of the Stomach; 10. Peritoneal Enteritis; 11. Mucous Enteritis; 12. Dysentery; 13. Malignant Dysentery; 14. Cancer of the Intestines; 15. Acute Peritonitis; 16. Chronic Peritonitis; 17. Acute Hepatitis; 18. Chronic Hepatitis; 19. Splenitis; 20. Dyspepsia; 21. Diarrhœa; 22. Cholera Morbus; 23. Malignant Cholera; 24. Cholera Infantum; 25. Flatulent Colic; 26. Bilious Colic; 27. Lead Colic; 28. Intussusception; 29. Constipation; 30. Intestinal Worms; 31. Hæmorrhoids; 32. Jaundice. Chap. IX. of the Diseases of the Respiratory System, preceded by a section on their physical exploration, viz.: Sect. 1. Auscultation and Percussion; 2. Pleuritis; 3. Pneumonia; 4. Bilious Pneumonia; 5. Catarrh; 6. Laryngitis; 7. Tracheitis; 8. Laryngo-tracheitis; 9. Acute Bronchitis; 10. Chronic Bronchitis; 11. Asthma; 12. Whooping-cough; 13. Tubercular Phthisis; 14. Apnœa; 15. Pneumothorax; 16. Emphysema; and Chap. X., in the same manner, of the Diseases of the Circulatory System, viz.: Section 1. Auscultation of the Heart; 2. Pericarditis; 3. Endocarditis; 4. Carditis; 5. Organic Diseases of the Heart; 6. Sympathetic Affections of the Heart; 7. Neuralgia of the Heart; 8. Syncope; 9. Arteritis; 10. Phlebitis; 11. Crural Phlebitis; 12. Hæmorrhage; 13. Epistaxis; 14. Hæmatemesis; 15. Intestinal Hæmorrhage; 16. Hæmaturia; 17. Hæmoptysis; 18. Metrorrhagia; 19. Scorbutis; 20. Anæmia; 21. Hydrops; 22. Anasarca; 23. Ascites; 24. Hydrothorax; 25. Hydropericardium; 26. Hydrocephalus; 27. Scrofula; and 28. Bronchocele.

In Chap. XI. the anatomy and the following diseases of the eye are described briefly, but to the point: Catarrhal Ophthalmia, Purulent Ophthalmia, Scrofulous Ophthalmia, Rheumatic Ophthalmia, Corneitis, Iritis, and Exophthalmia. In the same brief but straightforward and practically valuable manner, the anatomy and physiology and the following diseases of the ear are dispatched in Chap. XII.: General Otitis, External Otitis, Internal Otitis, Otorrhœa, Otalgia, Nervous Deafness.

Chap. XIII. treats of Diseases of the Skin. These are primarily divided into Rashes and Eruptions. The former are divided into Red Rash, Rose Rash, and Nettle Rash; the latter into Papular Eruptions, Vesicular Eruptions, Pustular Eruptions, Scaly Eruptions, Animalcular Eruptions, and Cryptogamous Eruptions. The Rashes, "whether the result of a direct irritant, or sympathetic of gastro-

intestinal irritation, consist in a congestion of the cutaneous capillaries, attended in some cases with inflammation of the dermoid structure, either diffused or in patches, and hence the redness, slight swelling, and burning or itching which attends, the cutaneous nerves being involved in the irritation;" while the Eruptions, "whether the result of a local irritant or of a deranged or depraved condition of the fluids of the body, consist of an inflammation of the dermoid structure, either active or passive; the elevations in the papular variety consisting of enlarged papillæ, those in the vesicular of a watery, and in the pustular of a mattery fluid, poured out under the cuticle. The scaly eruptions consist of elevations of the cuticle, caused directly by disease of the sebaceous glands, or by an obstruction in their excretory ducts, in consequence of which the cuticle becomes dry and scales off, leaving portions of the derma in a raw and exposed state. Finally, the animalcular eruptions consist of slight elevations containing matter, the result of the burrowing under the cuticle of a living animal; and the cryptogamous consist of a parasitic vegetable growth." A summary account of the structure and functions of the skin, and general remarks as to the symptoms, diagnosis, causes, nature, and treatment of rashes and eruptions, constitute the first section; while each variety in the order named is discussed separately in subsequent sections. This chapter we are able to commend most strongly, for its eminently plain and practical character.

Chapters XIV. and XV. are devoted to diseases of the urinary and genital organs respectively: the former including, 1. Nephritis; 2. Albuminuria; 3. Nephralgia; 4. Acute Cystitis; 5. Chronic Cystitis; 6. Diabetes Mellitus; 7. Diabetes Insipidus; 8. Lithiasis; 9. Suppression of Urine; 10. Retention of Urine; 11. Dysuria; and 12. Incontinence of Urine; the latter—1. Spermatorrhœa; 2. Gonorrhœa; 3. Syphilis; 4. Metroperitonitis; 5. Chronic Metritis; 6. Disease of the Cervix Uteri; 7. Leucorrhœa; 8. Amenorrhœa; and 9. Dysmenorrhœa.

A few concluding remarks and a well-prepared index then bring the volume to a close.

In the foregoing we have endeavored to present a just and full view of the contents of Dr. Maxson's book. We have quoted sufficient from the first chapters to give our readers an idea of the animus and stamina of the author. Judged from his work, he must be a correct observer, of plain, strong common sense, having the progress and perfection of the healing art and the amelioration of suffering humanity earnestly at heart, free from prejudice and open for conviction.

He should be, and we presume *is*, an eminent practitioner. The fact of his employing, and thereupon, sincerely recommending, some valuable remedial agents (and among them active or proximate principles of our medicinal plants) as yet for various reasons under the ban and misunderstood by many regularly educated physicians, is an honor to him, and of benefit to his patients; giving, also, a certain additional value to his book. We have cited, however, no details in our review, as we could not find that he has thrown any new light on, or made any striking original contributions to, medical science or practice in this or other respect. He further tells us:

"I have attempted to draw up the work without even the shadow of empiricism, by taking the human system in health as the standard, and then noting the deviations from that standard constituting the various morbid conditions or diseases. By taking this course, I have been enabled to arrive at clear indications of treatment from direct pathological conditions for every prescription which I have made. This course by no means precludes the benefit of experience in the use of remedies, as remedies indicated from pathological conditions are always those which experience finds the most successful; I have preferred, then, to arrive at them in this way, rather than empirically, as it tends to lead the mind of the student and practitioner of medicine to prescribe for *conditions*, without reference to names."

And again: "I have preferred thus to suggest only the *best* remedies to fulfill the indications in each particular case, thus avoiding the confusion from a multitude of inferior ones, especially as the student even will never find it difficult to arrive at a poorer remedy of a class, if from any accidental circumstance the best remedy should be contra-indicated, which is very seldom the case."

Now, with all possible praise of his presentation of a uniformly rational therapy, and unfeigned deference to his "twenty years' experience" and manifestly eminent practical knowledge, we must warn our readers that however tempting and convenient the exhibition of "positive remedies" is, their success is by no means as uniform. Still, in their own interest and that of their patients, we commend the whole subject-matter of Dr. Maxson's book to their favorable notice.

With this account of the *matter* of the volume before us, we must now for a moment turn to its *manner*; and here, we regret to say, all commendation is at an end. The author tells us that it "consists in part of a course of lectures not designed for publication," and this fact may, perhaps, explain some of its many faults in this particular.

In seeming partial consciousness of the absence of "polish of style," he further explains as follows:

"My professional career thus far has been one of activity, having been engaged in an extensive practice, which has absorbed nearly all my reasonable waking hours, during which I have gathered up the ideas here incorporated, in a form, I trust, however, to be understood. And while I may not have given my work the polish of style which it might have received had more leisure been afforded me, I confidently believe it will be none the less valuable as a practical treatise, for having been arranged and written in the midst of an exciting and extensive practice."

We cannot admit, however, but that the author's trust as well as confident belief, as far as style is concerned, appears to us ill-founded, for, to say the least of it, the style in *many* places is wretched, and in *not a few* the grammar below all criticism. In various parts of the book, whole pages, from their contrast to others, seem to have been corrected by another hand; if this is true, it is a pity the whole of it was not so revised. The work, we are assured, was under contemplation for several years, and written during the past two years. Surely, its matter was good enough to keep until sufficient time could be found, if that was all that was needed, to give it a suitable dress.

The publishers have performed their part *well*.

L. E.

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- 1.—*Etudes sur la Monorchidie et la Cryptorchidie chez l'Homme*. Paris, 1857. Pp. 180, roy. 8vo.
  - 2.—*Recherches Tératologiques sur l'appareil Séminal de l'Homme*. Par ERNEST GODART, M.D., &c., &c. Paris, 1860, roy. 8vo. 14 lith. plates. Pp. 148.

The notice of the two works by M. Godart which head this article we transfer to the MONTHLY from the *Glasgow Medical Journal* for April, 1861. It presents in brief compass an exposition of some of the observations and conclusions of the able author.

Of the first of the above works we have only seen an abstract. From this it appears that the author gives an account of the condition depending upon the non-descent of the testis on one or both sides, from the history of previous authors, and from cases coming under his own observation.

The more important conclusions which he has deduced from his study and observation are the following:

M. Godart defines monorchidia to be the absence of one of the testes, from its not having descended from the abdomen into the scrotum, and cryptorchidia to be the absence of both testicles from the same cause. These affections are both to be distinguished from congenital anorchidia, which is the term applied to the entire absence of one or both of the glands, and of which several cases are described by the author in both of the works above referred to.

The causes of monorchidia he states to be either—1. Hereditary predisposition; 2. An arrest of development of the corresponding side of the body; 3. An inflammation of the testis; and 4. Malposition in the course of the descent. M. Godart describes, step by step, the descent of the testis, and informs us that lesions of the gubernaculum testis are more frequently than is generally known the cause of malposition of the organ. The left testicle he states to be more frequently arrested in its passage than the right.

Although the arrested testicle is of an apparently perfectly healthy glandular structure, and secretes a fluid resembling semen, yet in none of the cases which have come under the author's observation has the fluid been found to contain spermatozoa. But if the second testis has descended into the scrotum, it alone is sufficient for fecundation.

The arrested testicle may be the seat of morbid alterations of various kinds, such as tubercle, cancer, &c., and M. Godart states that these diseases are most liable to occur in the arrested organ of the right side.

It is more rare to find the descended testis diseased and the arrested one healthy. M. Godart describes such cases in which the morbid affection was various, and states, as the result of his observation of four cases, that such persons are capable of ejaculation, (from the secreted product of the arrested testicle, as he supposes,) but the fluid discharged contains no spermatozoa.

M. Godart has observed only three cases of monorchidia, in which both the descended and arrested testis were affected with disease.

*Cryptorchidia.*—This condition, which is a malformation in man, is the natural condition in a number of animals, in which it interferes in no degree with the generative powers.

He regards the causes of this condition the same as those of monorchidia. He describes several cases, and states as the usual modification of the system accompanying it, a moderate stature, fair complexion, little vigor, high voice, youthful appearance, timidity, &c.

Persons afflicted with cryptorchidia in whom the testes are well developed are capable of ejaculation, but the semen is without spermato-

zoa, and they are incapable of fecundating. Four married persons in this condition whom he had observed had had no children.

In addition to the facts and views now stated the work appears to contain a number of interesting minor contributions to the history of the functions of the productive organs of generation.

The second work is in part a reproduction and extension of the author's inaugural thesis, sustained at the Medical Faculty of Paris, in 1858, "*On the Congenital Absence of the Testicle.*" It contains, in addition to the general history of his subject, an account of the author's observation of a variety of interesting cases of malformation of the seminal organs, and is illustrated by numerous well-drawn delineations of the external appearance and deeper dissections of these cases.

After some preliminary and general considerations upon the physiological relations of the various kinds of glands, the author describes a number of cases of unilateral anorchidia, or absence of the testicle.

In these cases it appeared that there existed very various degrees of absence of the conducting tubes, but in all of them the body of the testis was entirely absent. In some the epididymis, vas deferens, and vesicula seminalis existed, and in various degrees; in others one or other of these parts, or all of them, were also absent. When the vesicula seminalis and vas deferens existed, they contained a considerable quantity of their usual secretion, but without any spermatozoa being detectable in this fluid. Such cases are to be distinguished from those which are the result of castration by the existence of a cicatrix in the latter, and from those which are the effect of injury by the presence of the testicle, though reduced in size in the latter instances.

In such cases, if the other testis is sound, the man does not appear to suffer from the congenital absence or imperfection of the organ on one side, but on the contrary he possesses all the powers which belong to those possessing both organs perfect. If, however, the testicle which is present is affected with disease, or even if it should not have descended into the scrotum, the person will be incapable of procreation. Ejaculation may be possible, but it will be without effect.

In cases of the congenital absence of both testicles, a very different state of matters exists. The external organs are little developed, scarcely passing in size those of a boy of ten or twelve years of age. The hairs on the pubis are in general scanty and soft, and the intrapelvic portion of the organs presents the same inferiority in its development. The scrotum is also absent in those cases in which the epididymis and vasa deferentia do not exist. The person so affected is entirely impotent, and incapable of ejaculating any seminal fluid; but



this is to be distinguished from the case of double cryptorchidia, or testes arrested in their descent, in which the individuals are capable of seminal discharge, but incapable of procreation, as there is an absence of spermatozoa in the fluid ejaculated.

Individuals affected with double anorchidia are usually weak and timid, exhibiting little mental capacity, of a soft habit of body, and having a shrill, high voice. They are, in fact, in all respects similar to those who have been mutilated in early infancy.

The third class of cases described by M. Godart presents considerable interest—consisting of those in which the one or both testes have been present, but with an imperfect or closed condition, or more or less complete absence of the vasa deferentia and vesiculæ seminales.

In such cases the vasa deferentia may be defective in some part of their course through the inguinal canal, or they may be wanting at either terminal portion. In the case of the terminal portion being wanting, the vesicula seminalis is also absent; and in the case of the commencement being defective, the epididymis generally participates more or less in the same imperfection. But it is a remarkable fact that in several of these cases the testis was of considerable size, of natural glandular structure, and appeared to have secreted a fluid resembling semen, although spermatozoa were not, in several instances, detected in it.

In some instances it is to be remarked the vesicula seminalis is absent, while the vas deferens is natural.

The most remarkable fact, however, upon which the author insists, is that in some of these cases, notwithstanding the absence of a considerable part of the emitting tubes, the testis was not only of natural size and structure, but had actually secreted a fluid containing the natural spermatozoa. But this state of matters does not appear to have induced any unnatural condition of the gland, or of the system in general.

With reference to the influence which the absence of the seminal passages may exercise upon the generative function, M. Godart refers to the experiments of Sir Astley Cooper, Mr. Curling, and M. Gosselin,\* as well as some of his own, in proof of the fact that the removal of a part of the seminal ducts, which is always followed by closure of the divided ends, does not induce atrophy of the testis, but that on the contrary the gland continues to be developed in young animals, and

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\* *Nouvelles Etudes sur l'Oblitération des voies Spermatiques et sur la Sterilité consécutive à l'Epididymite bilatérale.* 1848.

maintains nearly its natural size in adults, and besides appears to continue to secrete natural spermatozoa. Of course the animal is rendered sterile, as the semen cannot be excreted by the natural passages; and it is equally surprising in those animals experimented on, and in the cases of congenital closure of the passages, that the distention of the parts of the ducts remaining in connection with the testis does not appear to produce any serious hurt to the organ, nor general inconvenience. We may suppose that the secreted fluid is removed by absorption into the system.

In such persons it would appear that the venereal appetite may exist, and that ejaculation of a fluid may be possible; but it need scarcely be added, that if the affection exist on both sides, they must be entirely sterile.

At some future time we may lay before our readers other interesting observations on a closely allied subject, together with its practical and medico-jurisprudential bearings.

L. E.

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*The Physician's Pocket Dose and Symptom Book:* Containing the Doses and Uses of all the principal Articles of the Materia Medica and Official Preparations; also Table of Weights and Measures, Rules to proportion the Doses of Medicine, common Abbreviations used in writing Prescriptions, Table of Poisons and Antidotes, Classification of the Materia Medica, Dietetic Preparations, Table of Symptomatology, Outlines of General Pathology and Therapeutics. By JOSEPH H. WYTHES, A.M., M.D., Author of "The Microscopist," "Curiosities of the Microscope," etc., etc. Third Edition. Philadelphia: Lindsay & Blakiston. 1861. Pp. 244; small 12mo.

Many of our readers are acquainted, we suppose, with the little work, a new edition of which we here announce. Even to those who are not, we need say no more as to what it contains, having printed the full title-page: at the same time a table of contents. It is a *code-mecum*, in which the most useful information is compressed into the smallest possible compass, or, as some would call it, a veritable *Pons Asinorum* of medical practice. And however much some may affect to sneer at and spurn such "Aids," there certainly is a strong demand for them, as, indeed, the necessity of a new edition, even in times like these, abundantly testifies.

We cannot say more nor less, than that we advise all who need or want *any* such publication, to be sure to get Wythes' Pocket Dose Book.

L. E.

*Buffalo Medical and Surgical Journal and Reporter.* Edited by JULIUS F. MINER, M.D., Surgeon to Buffalo General Hospital. Vol. I., No. I. August, 1861.

Most gladly do we extend the right hand of fellowship to this brave newly born. Amid the din and turmoil of the terrible struggle for national existence that convulses our fair, beloved land—where all interests suffer, we knew that more than one valuable medical journal would receive its death-blow; and the plaintive swan's song-tones of many a valiant expiring cotemporary has painfully fallen on our ears. We expected death in our ranks—and it has come. But that in these times any so lion-hearted aspirant to honors editorial could be found as to father and send out into the stormy ocean a new and untried craft, we would scarce have dared hope. Yet it greets us, and again we bid it welcome!

It is with peculiar pleasure, indeed, that we chronicle the birth of a successor to the "old *Buffalo Medical Journal*." We recall with pride that its prototype, or, as it calls it, "our home organ in medicine, so long and ably conducted," since the deprival of which, says it, "we have (still) better appreciated its value and influence, and most deeply felt its loss," has swelled with its "pure and unsullied" stream, and finally submerged into, the waters that bear our own gallant ship. We assure the new *Journal* of our sympathy, and bid it God-speed in its efforts to emulate its predecessor. May it prove worthy of its name, remembering if any one "should in any way attempt to detract from the honor of the *Journal*, to violate its chastity," "*turn him out*," and also rather than have it ever degraded, "play the part of the Roman father." Our best wishes for long life and prosperity are ever with it in its upright and onward course. L. E.

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*Pamphlets Received.*

*Medical Communications*, Vol I., No. 2, with the Proceedings of the Sixty-Ninth Annual Convention of the Connecticut Medical Society, held at New Haven, May 22d and 23d, 1861. Hartford: 1861.

*Modus Propagandi of the Human Species.* Physiologically Explained. By JOHN O'REILLY, M.D. New York: 1861.

*Announcement of the Medical Department of the University of Louisville, for the Session of 1861-62.*

## TRANSLATED FROM THE FRENCH, EXPRESSLY FOR THE MONTHLY.

*Lectures on Diphtheria. (Egyptian Disease.) Delivered at L'Hôtel Dieu, Paris. By M. TROUSSEAU.*

(Translated by the Editor\* from La Clinique Médicale de L'Hôtel Dieu, of M. Trousseau.)

(Continued from Vol. XVI., page 72.)

*Diphtheritic Paralysis*

Is not a new Disease.—Mild Form.—Symptoms.—Paralysis of the Veil of the Palate; of the Senses; of the Limbs; of the Muscles of Organic Life.—Death by Suffocation; by Strangling.—Severe Form.—Ataxo-dynamic Symptoms.—Severity not in Proportion with Intensity; the Duration of the Membranous Affections not in Proportion with Albuminuria.—This Paralysis is the Result of a sort of Intoxication.—Treatment.

GENTLEMEN—We remained a long time in our ward St. Bernard by the side of a young woman whom you found stretched out in an arm-chair, from which she could not raise herself. This patient, who occupies bed No. 9 in this ward, was attacked with paralysis more than three months ago; we have seen its accidents gradually developing before our eyes. She affords us to-day a remarkable example of paralysis consequent upon diphtheria, an affection which is doubtless not new, but which has been well investigated for a short time past only, and concerning which I am about to speak to you at this time.

The case which affords me the opportunity to do so is so interesting, that I do not fear to report it to you somewhat in detail. This patient, twenty-eight years of age, entered the hospital the 6th of August, 1859; eight days before, she had experienced a sense of uneasiness, and a violent cephalalgia; she had had fever, sore throat, and profuse sweats; the following day she had vomitings, and lost all appetite.

A particular important to be noted is, that this young woman had left our ward only about a fortnight before, whither she had come to be treated for lumbago; at that time she was placed in a bed near another patient attacked with diphtheria, and whose child died of croup. From them probably she took the disease which brought her back to Hôtel Dieu.

At the morning visit, on the 7th of August, we perceived the existence of the most extensive membranous angina; the uvula and tonsils, entirely covered with false membranes, presented only a surface of grayish white. I cauterized the parts immediately with chlorhydric acid. I prescribed insufflations of alum, which were to be repeated several times in the course of the twenty-four hours; a decoction with six grammes of perchloride of iron, and an infusion of black coffee, to which was to be added quinquina in powder.

The following day we were shown a very thick false membrane,

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\* During the absence from the city of the Editor, his brother, George Douglas, Esq., has kindly consented to continue the translation of these important Lectures, and to him our readers are indebted this month already. L. E.

which was detached from her throat; this diphtheritic concretion was two centimetres in length by one in breadth. On the outer surface we could see the traces of the previous day's cauterization, and that by which it adhered to the mucous membrane was marked by fine reddish arborization. In the throat we found the false membranes less abundant, and occupying especially the uvula and the posterior pillars of the veil of the palate. The cervical ganglia, principally those on the right side, were swollen. On examining the urine, we obtained a considerable quantity of albumen. We continued the decoction with perchloride of iron, the dose of which was increased to eight grammes; then I caused a strong solution of tannin to be carried into her throat by means of an apparatus *pulvérisateur* invented by Dr. Sales-Girons, for the inhalation of medicinal waters.

During the night from the eighth to the ninth of August, the patient was seized with an attack of difficulty of breathing, which necessitated the calling of the ward physician; he also drew from her pharynx a thick false membrane, the cause of this difficulty; however, from that time the pseudo-membranous concretions became from day to day less and less thick, and less and less extensive. On the 11th, after having taken off a very thin coating, we cauterized with chlorhydric acid the place which these false membranes had covered, and on the 16th there remained only a few small white spots. The diphtheria seemed definitively arrested. Nevertheless, the perchloride of iron was continued; the dose increased to ten grammes a day; this medicine was not suspended until the 23d of August.

Nevertheless, the urine, tested by heat and nitric acid, still precipitated a considerable quantity of albumen; and to conclude at once what I have to say relative to this phenomenon, I will remark, that from the 15th of August to the 12th of September, it presented notable variations; the precipitation being sometimes less, sometimes more abundant, but indeed diminishing progressively to such a degree, that on the 12th of September, I caused to be noted on the case-book, that there was very little albumen in the urine; when, twenty-four hours after, it reappeared in as great proportion as at first. This renewed appearance of albuminuria coincided with the development of peculiar nervous accidents of which I shall speak to you, and which manifested themselves the following day, the 14th. For three days the albuminous precipitate was very abundant. On the 17th September the urine gave no trace of it, but a slight shade reappeared on the 18th. On the 20th September the albuminuria stopped definitively.

However, from the 12th of August, (the disease was then nine days old, and the uvula was entirely freed,) there was no longer any false membrane on the left tonsil, and there remained only a few traces of it upon the right. On the 12th of August a phenomenon made its appearance, which seriously occupied our whole attention. This was a nasal tone of voice, which increased from day to day. On the 15th, on measuring the strength of the patient by means of the dynamometer of Dr. Burg, we found that the right hand gave a pressure of only 27 kilogrammes; the left, 22. Three days after, the paralysis of the veil of the palate had still further increased, and liquid food and drinks returned

through the nose. On the 20th August, the young woman complained of general weakness and pricking, itching sensations in her feet; on the dynamometer she marked 23 kilos with the right hand, 20 with the left. On the 23d, the hands were benumbed, and, like the feet, they were the seat of pricking and itching sensations. The patient no longer walked, but tottered along. On the 25th, we perceived anaesthesia. We could prick the patient without her knowing it, and on applying the esthesimeter upon the dorsal surface of her left forearm, she felt the two points of the instrument only when they were at a distance of six centimetres from one another. When her arms were extended, her hands were agitated with constant tremblings. Not only were drinks swallowed with difficulty, but solid food itself traversed painfully the isthmus of the oesophagus. To use the patient's own words, morsels of food stuck in her throat. This dysphagia continued to increase for several days. On the 31st of August new accidents made their appearance. When the unfortunate young woman breathed, we heard in the inspiration a slight hissing sound, analogous to that which is produced in individuals affected with what is called oedema of the glottis. From the previous day, she labored under considerable dyspnoea, and we counted 54 inspirations per minute. On percussion and auscultation, we could find no signs of thoracic affection. On the 2d September, the paralysis had invaded the lips and the tongue. The patient felt the numbness and the pricking sensations there, and had great difficulty in articulating words. The difficulty in talking augmented in like manner as the dyspnoea. The gums were insensible, and the teeth no longer felt the food which they chewed. Thereupon I had recourse to electrization, which I caused to be applied on the anterior and lateral portions of the neck, and at the summit of the epigastric region; suspecting that the diaphragm was involved in this dyspnoea, and that, like other muscles, it was affected with paralysis. On the fifth day of this treatment the patient said that she swallowed and breathed better. But she was far from having done with these accidents. In fine, on the 11th of September difficulties of vision supervened. Her sight was affected, and the young woman could no longer read; the letters appeared to her blurred. The difficulty of pronunciation was still more marked; her hands continued to be numb; her feet were so no longer.

At this period, I would remind you, the albumen, the proportion of which in the urine had diminished, reappeared in greater quantity; at this period, also, that is to say, on the 14th of September, the patient was seized during the visit with the nervous accidents to which I just now made allusion; she complained of feeling, since morning, trembling in her hands. We had just left her bed, when suddenly we saw her agitated by violent convulsive movements in both arms, the eyelids, and the muscles of the eye, the balls of which were turned upward. These convulsions lasted more than an hour, intelligence, meanwhile, remaining perfectly clear; never before had the young woman had any nervous attacks. I prescribed a potion of melissa water, 80 grammes, syrup of ether 40 grammes, musk one gramme, and the following day she was quiet. During the night of the 15th the convulsive accidents



manifested themselves anew, this time attacking the muscles of the face and those of the jaw. At the time of the visit, we perceived considerable dyspnœa and great difficulty in the articulation of sounds; the dysphagia was, however, continually decreasing. The left leg, much more feeble than the right, bent under the weight of the body. The superior extremities continued to be the seat of pricking and itching sensations, but still retained their strength. On the 22d of September weakness had invaded both legs, and rendered walking not only, but even an erect posture, impossible; in addition, the stools were painful. This weakness, and the numbness which accompanied it, presented variations in their intensity. Thus, while, on the 22d, the patient had no consciousness of the existence of her toes, on the following day she no longer experienced that disagreeable sensation of which she complained the day before. This weakness in the legs really continued to increase, however, and on the 26th September the paraplegia was complete; there was, in addition, vesical tenesmus, then difficulty in urinating, and veritable paralysis of the bladder; dyspnœa, trouble in swallowing, hesitation in speech, had gradually diminished, and you have seen, gentlemen, that to-day the patient breathes, swallows, and talks easily. Electrization was continued, and was successively applied to all the parts successively affected. Since the 1st of October the numbness in the limbs has diminished, and her strength has gradually returned; on the 7th the patient was able to raise herself without aid, and to sit on the side of her bed, although, as yet, it was impossible for her to walk; on the 11th she began to take a few steps; uncertain steps, it is true, and when she walks she does not feel the ground on which her feet rest.

In this case, gentlemen, it would have been difficult to mistake the relation existing between the paralytic accidents which we had seen developing themselves before our eyes, and the diphtheria, by which the patient was still affected, where they manifested themselves. If these things had always presented themselves as clearly to the observation of physicians, it is probable that this affection would not have remained unnoticed; for assuredly, diphtheritic paralysis is not a new disease, as some have believed.

It is the same, indeed, with this affection as with many others. Albuminuria, for example, which we have known only for a few years past, is a disease which now-a-days is met with frequently. I might say the same of leucocythemia; the example is indeed still more striking, for this affection was totally ignored until latterly, and now there is not a hospital in which some cases of it may not be observed. It is not because albuminuria and leucocythemia are new affections; it is not even because they are now more frequent than they were formerly; but because, since the investigations of Bright into the former, and those of Bennett, Virchow, E. Vidal, and Magnus Huss into the latter, the alarm has been given, and because now they are recognized, while formerly they were passed by unnoticed. Well, gentlemen, so it is with diphtheritic paralysis; and as generally it does not make its appearance until some time after the characteristic local manifesta-



tions of the pellicular disease, we can understand why we may not always have grasped the origin and the cause of it.

When we consult the memorials which history has left us concerning the Egyptian disease—and these memorials are very ancient, since they go back as far as Aretus—we find but few traces of diphtheritic paralysis. Some mention, it is true, excessive weakness, the extreme debility which follows in the train of the disease, but there is no mention, properly speaking, of paralysis. However, its existence is categorically pointed out by three authors of the middle and end of the last century, Ghisi, Chomel, and Samuel Bard, and all three have completely established its correlation with diphtheria.

The case which Ghisi reports in his twelfth medical letter upon the epidemic angina of Cremona, in 1747 and 1748, is that of his own son, scarcely eight years of age. He concludes his remarks thus: "Leaving," he says, "to the patience and skill of M. Ch. Scotti, surgeon, the cure of the large ulcers seated in the two tonsils, a portion of the veil of the palate and the uvula, I also intrusted to him the treatment of a large and painful tumor, which at the very time when the interior of the throat had almost healed up, began to appear externally, and discharged a little below the angle of the jaw, under the mastoid muscle. We left to nature the cure of the strange effects of this disease, effects which were remarked among many of those who had already recovered their health, and which continued about a month after the healing of the angina and the abscess, the child continuing to talk through his nose, and his food, principally that which was least solid, instead of following the course of the œsophagus, often returned through his nostrils." About the same period, in 1748, a French physician, Chomel, observed in two patients paralysis consequent upon gangrenous sore throat. In one of these cases reference is alone made to the paralysis of the veil of the palate, which also Ghisi had pointed out. "The patient," says Chomel, "did not begin to be really free from the affair until the forty-fifth day of the disease, continually having difficulty in expressing himself, talking through the nose, and having an elongated uvula." But in the second case there were also other accidents; independently of the paralysis of the veil of the palate, "the patient became squint-eyed and deformed; on recovering her strength, she resumed from day to day her natural condition."

Samuel Bard, who has written an account of the epidemic sore throat which prevailed in 1771 in the City and Province of New York, relates the case of a little girl, two years and a half old, who recovered from a suffocating angina and cutaneous diphtheria consequent upon an application of blisters, but who continued to suffer from paralysis of the veil of the palate and weakness of the legs. "The larynx retained a peculiar sensitiveness in respect to liquids; to such a degree, that at the very moment when the little patient attempted to drink, she would fall into a violent attack of coughing, although she could swallow solid food without difficulty. These symptoms even disappeared, with the exception of the weakness and aphonia, which lasted for a much longer time; so that, in the second

month, she could scarcely walk alone, or raise her voice above a whisper."

These facts remained unnoticed, and M. Bretonneau himself, who, in his *Treatise on Diphtheria*, had given a translation of the letter of Ghisi, and the memoir of Samuel Bard, had passed them by without dwelling on them. For at that time the attention of my illustrious master had not been aroused upon the subject; in the epidemic which he had just examined into he had not observed any instances of diphtheritic paralysis, and at this present time even he does not remember ever having met with any before 1843. The first patient whom he saw attacked by it was a surgeon of the Hospital at Tours, Dr. Herpin. M. Bretonneau, to whom he related his case, transcribed it literally in a *Memoir on the Means of Preventing the Development and Progress of Diphtheria*, published in the *Archives de Médecine*, (January and September, 1855.) From that time, indeed, paralysis, consequent upon diphtheria, was a fact well understood by the physicians of the school of Tours; but at Paris there was scarcely any mention made of it; or, at least, even though for a long time its existence had been known, no one had grasped the relations of cause and effect between the accidents observed and the disease which had produced them.

Eight years ago I and others also had already been struck with the fact, that paralysis of the veil of the palate frequently occurred in individuals who had had diphtheritic angina. These patients had the nasal tone of voice and great difficulty in swallowing, and this happened to adults as well as to children. I endeavored to explain to myself what took place in these cases, and I imagined that this paralysis depended upon a peculiar modification impressed by the membranous inflammation upon the palatine veil; a modification by virtue of which the muscular fibre which enters into its composition lost for a certain time its normal power of contraction. This was the explanation given by my friend Dr. Lasègue and myself in an article published on this subject in the number of the *Union Médicale* for the 9th of October, 1851. Here, in truth, paralysis of the veil of the palate was alone under consideration, and our explanation was up to a certain point acceptable, for we could compare what happens in diphtheritic angina with what sometimes happens in anginae purely inflammatory, to which also we see this paralysis succeed; and in a more general way, we could compare it with what happens to every muscular apparatus when it has been during a greater or less time the seat of rheumatismal or pure inflammation. However, even though, anterior to this epoch, I had seen other facts concerning diphtheritic paralysis, either general or partial, affecting the eyes, the tongue, still I had seen them without being able to explain their nature, without having grasped the relation between the disturbances of innervation and the malady upon which they depended. Thus, in 1833, a remarkable example was brought under my notice at the time when I directed this clinic, as a substitute for Recamier. This case has been carefully reported by my friend, Dr. Thirial.

The case in question was that of a young woman twenty-two years

old, who entered *Hôtel Dieu* on the 13th of June. Her limbs, both upper and lower, were affected with almost complete paralysis; the right arm could with difficulty be extended slightly; the fingers were drawn in and bent together in the palm of the hand, and when an effort was made to extend them, a slight degree of pain was occasioned. Paralysis of the left upper limb was less extensive and less complete; the patient could cause the arm to execute a few movements of adduction; moreover, she could still bend the forearm upon the arm, and produce a few feeble movements of pronation and supination. At the same time, the fingers of the left hand were permanently closed like those of the right hand. The inferior right limb was entirely incapable of motion, and the condition of the inferior left limb was about the same, except that the patient could slightly bend the limb, thanks to the active force still left in the knee-pan.

There was some difficulty in the emission of urine and faecal matter.

In spite of the almost general loss of mobility of both sides of the body, the sensibility of the paralyzed limbs remained entirely unaffected. These parts were somewhat colder than in their normal condition, but they readily perceived the touch of the hand as well as differences of temperature. The senses and the intelligence preserved all their integrity. Utterance was unobstructed, and the patient answered our questions with remarkable correctness and precision. The pulse was normal, appetite slight, but digestion was good.

This young woman, who lived in a village of the department de la Haute Marne, whence she had come to Paris to be treated, informed us that she was delivered the 14th of February; consequently, four months before. Her delivery had been perfectly natural, but about fifteen days after, she had been seized with angina, qualified as membranous angina, which had made her very sick, and subjected her to great danger. The physician of the village, who had attended upon her, combated the disease at first with bleeding, then with sixty leeches applied several times, and afterwards added to this treatment blisters to the calves of the legs, without making any mention whatever of any topical remedy. The patient told us, in addition, that the surface of the blisters was covered with false membranes; and this fact, as M. Thirial remarked, left no doubt whatever concerning the nature of this angina, and its grave and infectious character.

In spite of the insufficiency, I will add, in spite of the absurdity of this treatment, the patient had the good fortune to recover, but it was not until a long time after that she became convalescent. She informed us, indeed, that she did not begin to sit up until about the 10th of April, that is to say, more than six weeks after the commencement of the diphtheria.

The first time that she attempted to stand erect and to walk, she noticed that there was some difficulty with the right leg, and she added that she could not support herself and take a few steps without the aid of a cane. The physician to whom she complained of these accidents paid but little attention to them, charging them to her weakness, the natural consequence of so long a sickness. I may say here, it is probable that this mistake has been committed by many

others before attention had been aroused concerning the paralysis of which we are speaking. In the case of this woman, a few days after having complained to her physician of her symptoms, the disagreeable sensations of pricking and itching supervened in her weak leg, and the difficulty of moving about increased in a very marked degree. In short, at the end of fifteen days, paralysis of the inferior right limb was complete, and the left arm was affected in its turn. After a certain time, the same pricking and itching sensation manifested itself throughout the whole of the left side of the body; soon the motive power grew weaker and weaker simultaneously in the upper and lower limb. Towards the end of May the patient could no longer support herself on her legs, even with the aid of a cane, and from that time she was obliged to keep her bed. At the end of another fortnight, as her condition did not change, her family decided to come to Paris, to have her treated here, and she entered Hôtel Dieu in the state which I have just now described to you.

Assuredly, gentlemen, that was a sufficiently clearly marked case, and it seems to me, to-day, that no one should have mistaken it; and yet, among all the propositions successively suggested by the numerous physicians who were in attendance on the clinic, both concerning the nature and the seat of the disease, the real diagnosis escaped us all, as well during the whole time that we had the patient under our care, as after her cure, which was complete two months after the arrival of the poor young woman in our wards, and three months after the commencement of the paralytic accident. I repeat, that no one grasped the relation existing between these accidents and the diphtheria by which the patient had been affected.

As for me, I did not think of it; nor did I any the more think of it in the case of analogous facts which at a later period I happened to meet with.

In 1846, I was sent for by my honorable confrère, Dr. Vosseur, to see the child of a joiner living in the quarter Saint Jacques, in the Allée des Feuillantines. This child had paralysis of the veil of the palate; but she had, in addition, strabismus, and complete paraplegia, which made it absolutely impossible for her to walk. Dr. Vosseur told me that, two months before, this little girl had had a very severe diphtheritic angina, to which he had opposed cauterization with nitrate of silver, mercurial preparations given internally, and employed by way of frictions externally, and still other medication.

Two years after, in 1848, a physician of the quarter Saint Victor, Doctor De Wulf, called me to the family of a merchant in the Rue Saint Honoré, whose three children had been attacked with pharyngeal diphtheria, which had seized one after the other. Dr. De Wulf had treated them vigorously; calomel internally, and insufflations of alum upon the parts affected, had been employed to combat the angina, and during convalescence tonics had been administered. The little patients were cured of the diphtheria; one, however, a little girl five or six years old, whom her grand-parents had taken home with them, presented certain accidents, in respect to which, three weeks after, my confrère did me the honor to ask my opinion. I found paralysis of

the tongue and of the veil of the palate, which hindered deglutition; there was also strabismus; and in addition, an arm and a leg were completely paralyzed. I thought at first there was hemiplegia, resulting from a tuberculous lesion of the brain. Fifteen days after, the child died; the paralysis had extended to the entire body.

These facts, like the first, remained then a dead letter to me. I was acquainted, however, with the observation of Dr. Heppin, of Tours. M. Bretonneau had related it to me, and had said, "It is diphtheritic paralysis." Unheard-of things! I obstinately persisted in seeing in it only a coincidence; and when M. Lasègue and I published, in 1851, our article on paralysis of the veil of the palate, I was satisfied with the explanation which I gave of those local paralyses. I did not see that they were the same in nature as the paralyses of the limbs, of the sight, etc. It was not until towards 1852 that, enlightened by new facts, better studied and better interpreted, I began to understand diphtheritic paralysis as M. Bretonneau himself understood it. From that time, whenever occasion offered, I called, in my turn, the attention of my colleagues to this important subject, and in this very place I mentioned, as early as 1852, some observations which I will recall to you to-day.

In 1852, I saw at No. 11 Rue Caumartine, with my friends, MM. Beylard, Oliffe, and Bigelow, an American lady attacked with a frightful diphtheria, which, invading the pharynx, the nasal fossæ, the internal surface of the eyelids, kept the patient for three weeks between life and death. This young lady recovered; but in the course of the disease, she had fallen into an unimaginable condition of helplessness. Before the attack, being in all the brilliancy of health, and having a remarkable freshness of color, she became, after the third day of her membranous angina, pale as the most severely chlorotic woman, and a general swelling was added to the discoloration of the integuments. I knew nothing at this period of the existence of albuminuria in diphtheria, and I neglected the examination of the urine. In spite of the severity of these phenomena, I repeat, the patient recovered; that is to say, the pseudo-membranous affections yielded and completely disappeared; but we soon had to struggle against other morbid troubles of the most serious nature. At first there was paralysis of the veil of the palate and of the pharynx, which almost absolutely prevented the act of deglutition; as soon as the young girl attempted to take anything liquid whatever, she immediately rejected it through the nose. It became necessary, during a certain time, to give her only thick food, and to nourish her with well-boiled chocolate, and with thick soup; and even then we were obliged to close her nose, so that the column of air contained in the nasal fossæ, opposing an obstacle to the return of the alimentary substances, might perform the office of the veil of the palate. This device succeeded.

To this paralysis of the veil of the palate, which was also characterized by the nasal tone of voice, there was added paralysis of the apparatus of vision. The patient became amblyopic, and afterwards completely amaurotic. Her arms were attacked, and loss of motive power was complicated with loss of sensibility; the inferior extremities

were, in their turn, affected with paralysis. Six weeks after her recovery from the membranous affection, the paralysis was so general, that the poor young girl was condemned to remain in bed, without the power to move from it. Four months passed before she could leave it and walk about her room, supported by two persons; before she could carry a spoon to her mouth and feed herself. Her cure was not complete till the end of a year. At the present time her health is excellent.

I related this case to my friend M. Blache, and to several of my colleagues in the hospitals; it awakened their remembrances, and they called to mind a certain number of other cases which they had up to that time passed by unnoticed. Some time after that Dr. Faure called me to see one of his patients, a little girl four or five years old, who was just recovering from a diphtheritic affection. She had general paralysis, completely analogous to that of the young American; with this difference, however, that there was a sort of alternation in the accidents; the symptoms of paralysis manifesting themselves sometimes in an arm, sometimes in a leg. At the same time that he asked my advice, M. Faure published this interesting case in the *Union Médicale*. This case was about five or six years ago. The patient recovered quite rapidly.

In 1858, I was called in consultation to see a broker, by Dr. Arnal, who told me that his patient, after having been attacked by paralysis of the veil of the palate, had had remarkable weakness of vision, and afterwards paraplegia and paralysis of the superior limbs; the muscles of the neck were also affected, and had become powerless to support the head in its natural position; finally, there was anaphrodesia. While listening to the patient as he was giving me the information which I asked for, I remarked his nasal tone of voice, and all the paralytic symptoms, which I observed immediately, made me think that these accidents were the results of an antecedent diphtheria, which was the case.

Now that, since the publication in the *Archives* of the memoir of M. Bretonneau, it is, so to speak, the order of the day, diphtheritic paralysis has been treated of in several theses, especially in that of Dr. Pératé in 1858; and in 1859, Dr. Péry made it specially the subject of his inaugural dissertation. But the most extended work which has yet appeared on this subject is that which Dr. Maingault presented to the Medical Society of the Hospitals. This author having devoted himself to the examination of facts relative to this affection, has succeeded in collecting more than fifty cases of it, six of which he himself saw, and this collection of cases served as the basis of the memoir which he has just published.

For some time past, these cases seem to multiply considerably in the hospitals, especially in the hospitals for children, both in the City of Paris, and at different points in France. Reports concerning epidemics of membranous angina which have prevailed in the departments point out, in fact, the existence of this affection. I have shown to you in our wards, for some months past, several patients who have been attacked by it, and my clinical assistant, Dr. Moyuin, has reported a



number of cases of it in the *Compte Rendu*, published by the *Gazette des Hôpitaux*, (numbers of the 15th and 22d November, and 1st December, 1859.) This abundance of cases, at present observable, results doubtless from the fact that, attention being anxiously awakened concerning them, no one allows them to pass unnoticed; but, in addition, these cases are in reality of late much more common; this is probably because, for several years past, diphtheria has assumed that peculiar physiognomy which it had not formerly, and which is characterized by its toxical form. The fact is constant, however, that there is not a physician at present who has not heard about diphtheritic paralysis. I will now endeavor to sketch for you its principal features.

Diphtheritic paralysis is presented under *two distinct forms*: one *severe*, but very rare, thanks be to God, in which those attacked die in the midst of adynamic or ataxic accidents; *the other mild*, generally terminating in cure; or if sometimes death occurs, it happens through an accident, resulting, it is true, from paralysis, but produced, so to speak, in a mechanical manner; the patient dying, for example, from strangulation by a morsel of food being lodged in the bronchii, as in the case lately cited by my colleague and friend M. Tardieu.

In the mild form, diphtheritic paralysis assumes the characteristics which I will point out to you.

Sometimes towards the end of a membranous angina from which the patient has not yet recovered, as happened to our female patient of No. 9 ward St. Bernard, but most frequently, we may say, after the disappearance of the false membranes, eight, twelve, fifteen days, and even a month after the apparent cure of pharyngeal diphtheria, there supervenes a *paralysis of the velum palati*. It is manifested by the nasal tone of voice, which we are tempted to attribute to a destruction, or at least to a considerable swelling of the palatine veil; the speech is slow; the articulation of sounds difficult. At the same time there is difficulty in deglutition; partly rejected through the nose, drinks are always much less readily swallowed than solid food; but when paralysis affects not only the veil of the palate, but also the muscles of the pharynx, the hinderance to deglutition becomes also more considerable, and morsels of food pass with difficulty, the smaller the volume the greater being the difficulty; and sometimes they may become involved in the air-passages, and bring about the accidents to which I have already made allusion, and which I shall have occasion to revert to hereafter. A peculiarity noticed by Dr. Maingault in a work anterior to that of which I have just now spoken, (*Of paralysis of the veil of the palate consequent upon angina*, Thesis, Paris, 1854,) and also pointed out by Dr. Duchenne, (of Boulogne,) is, that the patients can neither blow out a lighted candle, for example, nor puff out their cheeks, nor perform suction, nor gargle their throats. To explain to you, gentlemen, the mechanism of this difficulty of deglutition, and the different phenomena which I have just mentioned, would carry me beyond the limits of a clinical lecture; this mechanism has been discussed at length in the thesis of Dr. Maingault.

If we examine the pharynx of the patient, we perceive that the veil of the palate is pendent; that it closes the back part of the mouth



like a half veil; that instead of rising and falling in frequent oscillations, as usual, when we depress the tongue rigorously with a spoon, it remains motionless, or nearly so. If we endeavor to excite it by pricking it with the point of a bistoury or the nib of a pen, it does not contract at all; its sensibility, usually so exquisite that the least titillation excites nausea, is completely blunted; we can prick it with impunity, cauterize it with chlorhydric acid and nitrate of silver, which we could not do before.

The veil of the palate is ordinarily the part first affected by diphtheritic paralysis; this is readily understood, for independently of the general cause which produces it, the local condition, the inflammation of which the pharynx, the tonsils, the uvula, and the palatine veil have been the seat, plays also its part in the manifestation of the local accidents. It is a well-known fact, indeed, as I have just now told you, that inflammation, in attacking a muscle, introduces into its vitality such a modification that the contractile power of the muscle is diminished, and even destroyed; consequently, taking into account only this element of inflammation, which, striking the veil of the palate, modifies the vitality of the muscular fibres which enter into its texture, the explanation that I gave in 1851 of this paralysis was correct, but I had considered only one side of the question. Later observations taught me that this element of inflammation played but a secondary part, while indeed it singularly predisposed the muscular apparatus which it affected to suffer the effects of the general cause, under the influence of which the paralysis is produced, which we shall see manifesting itself in other parts of the body. The principal part is so completely played by this general cause of which we are speaking, that in some cases, and those cases are not rare, paralysis of the veil of the palate does not supervene, as I have just now said, until a certain period, and sometimes a long time, after recovery from the angina, when the inflammation has completely passed away, and could not, consequently, be deemed the cause of it.

Not only is the veil of the palate generally the part first affected by diphtheritic paralysis, but I have often seen it exclusively confined to this part. Under other circumstances this paralysis is general at the outset; and then, either, on the one hand, it has affected simultaneously the veil of the palate, the limbs, and the other organs; or, on the other hand, paralysis of the veil of the palate has preceded by a few days only the accidents which we are now about to consider; or finally, indeed, but this is observed much more rarely, the first has entirely, or almost entirely, yielded when the second appears.

These accidents are manifested as well after cutaneous diphtheria as after membranous angina, according to the cases observed by my colleagues and friends, Doctors Barthez and N. Gueneau de Mussy; they commence, ordinarily, with the extremities.

The patients complain of numbness, of pricking and itching sensations, which extend from the fingers along the limbs. This pricking, tingling sensation is never more marked than at the moment when the individuals make a muscular effort; it is accompanied by a sensation of cold in the feet and hands, and a feeling of heaviness in the

legs; sensitiveness to the touch is obtuse, and anæsthesia sometimes becomes complete; patients can be pricked and pinched with impunity, without their feeling any pain. This anæsthesia may extend to the entire surface of the skin, but most usually anæsthesia and analgesia affect only certain points of the body, precisely as is observed in hysterical paralysis. Generally, the lower extremities are first affected by it, and, in some cases, the patients do not feel the ground under their feet, or they feel it only imperfectly; it seems to them, they say, as if they were walking on cotton, or on very thick woolen carpet. There are some who can walk only on condition that they have their eyes open, for fear of falling. There are also, gentlemen, phenomena which are observed in other sorts of paralysis. When the hands are attacked by it, the patients lose all consciousness of what they hold, and find it impossible to lay hold of objects of small size, such as pins and needles. This paralysis of sensibility begins most usually, I repeat, with the lower extremities, and from them becomes general; but some cases have been noticed in which the upper extremities alone have been affected; in other cases, entirely exceptional, however, there has been hyperæsthesia.

At the same time that these difficulties of sensibility appear, there also appears *paralysis of motion*, which presents different degrees. It may betray itself solely in the weakness which the patients feel, especially when they attempt to walk somewhat rapidly, to ascend or descend a staircase. But these symptoms are not generally thus limited; the weakness increases progressively; walking becomes more and more difficult; finally, an erect posture becomes impossible; the patients are compelled to remain in bed, and the paralysis may be such that they cannot raise their legs. By the aid of the dynamometer, up to a certain point, we can obtain the measure of the weakness of the upper extremities. You have seen, gentlemen, that in vigorous persons who in the ordinary state of health should give from 50 to 55 kilogrammes of pressure on the dynamometer of Dr. Burg, we could obtain only 20, and indeed, in some cases, only 12 to 10 kilogrammes. This diminution of motive power still progressing, the patients can no longer stretch out their arms except with difficulty; and if the paralysis still increases, they become deprived of the use of their hands, and are obliged to be fed.

In like manner, as the difficulties of sensibility, so the hinderances of motive power generally begin with the lower extremities, to which they are sometimes confined; this is paraplegia. In the greatest number of cases, the superior extremities are seized in their turn, and the muscles of the trunk and of the neck may be affected. My friend, Dr. Faure, who first pointed out the fact, has described it perfectly. "The general aspect of the body" he says, in the article which he communicated to the journal *Union Médicale* of the 3d of Feb., 1857, "the general aspect of the body has profoundly changed; all the upper part of the trunk is pushed backward; the head, on the contrary, falls forward, and rolls on the breast; the natural muscular outlines of the neck and of the back disappear; whatever may be the efforts made to induce the patients to raise the head, they cannot succeed in doing so,

and if the body is pushed backward, the head immediately falls like an inert mass." The intercostal muscles and the diaphragm are sometimes affected with this paralysis, and the considerable dyspnœa which in one patient of No. 9 Ward Saint Bernard for a moment so much frightened us, proceeded from no other cause. And in this patient also, for this unfortunate woman has afforded us a complete tableau of all the accidents which we are studying, you have seen the muscles of the face, the lips, and the tongue affected by it.

The attitude of the subjects in whom the muscles of the trunk are thus paralyzed, and the difficulty of speech, when the tongue and the lips are affected, give to the individuals the appearance of idiots; but when they are interrogated, the clearness of their replies shows the brightness of their intellect.

(To be continued.)

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### EDITORIAL AND MISCELLANEOUS.

THE EDITOR OF THE MONTHLY having been appointed Associate Commissioner and Inspector on the Sanitary Commission, and thereupon compelled to leave the city rather suddenly, the undersigned was, somewhat unexpectedly, called temporarily to occupy the Editorial Chair. On making his saluting bow, he feels that an apology is due to the patrons of the MONTHLY for the late appearance of this number. The delay was, however, under the circumstances, unavoidable.

ELSBURG.

*Our Medical Officers in the Battle of Bull Run, July 21, 1861.*

Medical Director—W. S. KING; Assistant—DAVID L. MAGRUDER.

#### FIRST DIVISION.

FIRST BRIGADE.—*First Regiment Connecticut Volunteers.* Surgeon, C. P. Stearns; Surgeon's Mate, Frederick Dibble. *Second Regiment Connecticut Volunteers.* Surgeon, A. T. Douglas, M.D., of New London; Surgeon's Mate, Francis Bacon, of New Haven. *Third Regiment Connecticut Volunteers.* Surgeon, John McGregor, of Thompson; Assistant Surgeon, Matthew T. Newton, of Suffield. *Second Regiment Maine Volunteers.* Surgeon, William H. Allen, of Orono; Surgeon's Mate, A. C. Hamlin, of Bangor; *Second Regiment New York State Militia.* Surgeon, Dr. A. Powell; Assistant Surgeon, S. E. Ferguson.

THIRD BRIGADE.—*Sixty-Ninth Regiment New York State Militia.* Surgeon, Dr. Kiernan. *Seventy-Ninth Regiment New York State Militia.* Surgeon, James Norval, M.D. *Thirteenth Regiment New*

*York Volunteers.* Surgeon, Dr. Little; Assistant Surgeon, Dr. Avery. *Second Regiment Wisconsin Volunteers.* Surgeon, J. M. Lewis

FOURTH BRIGADE.—*Second Regiment Michigan Volunteers.* Surgeon, Alonzo B. Palmer; Assistant Surgeon, Nathan Webb. *Third Regiment Michigan Volunteers.* Surgeon, D. W. Bliss; Assistant Surgeon, Z. E. Bliss. *Twelfth Regiment New York Volunteers.* Surgeon, R. W. Pease; Assistant Surgeon, G. B. Todd. *First Regiment Massachusetts Volunteers.* Surgeon, Richard H. Salter, of Boston; Assistant Surgeon, Samuel A. Green, of Boston.

### SECOND DIVISION.

FIRST BRIGADE.—*Eighth Regiment New York State Militia.* Surgeon, Dr. Dalton; Surgeon's Mate, T. R. Smith. *Fourteenth Regiment New York State Militia.* Surgeon, Captain J. M. Homeston; First Assistant Surgeon, Lieutenant J. L. Earley; Second Assistant Surgeon, F. Swalm. *Twenty-Seventh Regiment New York Volunteers.* Surgeon, Barnes; Assistant Surgeon, Morse.

SECOND BRIGADE.—*First Regiment Rhode Island Volunteers.* Surgeon, Francis L. Wheaton, Providence; Surgeon's Mate, Henry H. Rivers, Providence; Surgeon's Mate, George W. Carr, Providence. *Second Regiment Rhode Island Volunteers.* Surgeon, Francis L. Wheaton. *Seventy-First Regiment New York State Militia.* Surgeon, Dr. McMillan; Assistant Surgeon, Dr. Dodge; Second Assistant Surgeon, Dr. Peugnet. *Second Regiment New Hampshire Volunteers.* Surgeon, George H. Hubbard.

### THIRD DIVISION.

FIRST BRIGADE.—*Fifth Regiment Massachusetts Volunteers.* Surgeon, J. W. Hurd; Assistant Surgeon, Wm. W. Keen, Jr., M.D., of Philadelphia. *First Regiment Minnesota Volunteers.* Surgeon, J. H. Stewart; First Assistant Surgeon, C. W. La Botelier.

SECOND BRIGADE.—*First Regiment Michigan Volunteers.* Surgeon, William Brodie; Assistant Surgeon, Cyrus Smith. *Fourth Regiment Michigan Volunteers.* Surgeon, Thomas Tunnicluff; Assistant Surgeon, D. P. Chamberlin. *Eleventh Regiment New York Volunteers.* Surgeon, C. A. De Williers. *Thirty-Eighth Regiment New York Volunteers.* Surgeon, A. Berry; Assistant Surgeon, Stephen Griswold.

THIRD BRIGADE.—*Third Regiment Maine Volunteers.* Surgeon, Gideon S. Palmer, of Gardiner. *Fourth Regiment Maine Volunteers.* Surgeon, William A. Banks, Rockland; Assistant Surgeon, Elisha Hopkins, Jr., Searsport. *Fifth Regiment Maine Volunteers.* Surgeon, Buxton, of Warren; Assistant Surgeon, F. G. Warren, of Biddeford.

*Second Regiment Vermont Volunteers.* Surgeon, Newton H. Ballou, Burlington; Assistant Surgeon, Walter B. Carpenter, Burlington.

#### FIFTH DIVISION.

FIRST BRIGADE.—*Eighth Regiment New York Volunteers.* Surgeon, Dr. Rudolph Welcker; Assistant Surgeon, Francis Stackly. *Twenty-Ninth Regiment New York Volunteers.* Surgeon, Dr. C. Neuhaus; Assistant Surgeon, C. H. Osborne. *Garibaldi Guard, of New York.* Surgeon, A. Mager. *Twenty-Seventh Regiment Pennsylvania Volunteers.* Surgeon, P. Heller; Assistant Surgeon, M. Heller.

SECOND BRIGADE.—*Sixteenth Regiment New York Volunteers.* Surgeon, W. H. Crandall; Assistant Surgeon, John H. Moore. *Thirty-First Regiment New York Volunteers.* Surgeon, Dr. Frank H. Hamilton; Assistant Surgeon, Dr. Lucien Dmainville. *Eighteenth Regiment New York Volunteers.* Surgeon, W Van Ingan; Assistant Surgeon, Edmonson. *Seventeenth Regiment New York Volunteers.* Surgeon, J. C. Stewart; Assistant Surgeon, A. B. Shipman. *Thirty-Second Regiment New York Volunteers.* Surgeon, William B. Little; Assistant Surgeon, G. T. Totten.

THEIR FATE.—*Wounded.*—Surgeon N. S. Barnes, of the 27th Regiment N. Y. Volunteers, contused wound of the knee.

*Prisoners.*—Surgeon B. F. Buckstone, 5th Maine Regiment; Dr. Norvell, 79th N. Y. M.; Dr. J. M. Lewis, 2nd Wisconsin; Surgeon W. H. Allen, 2d Maine Regiment; Surgeon A. A. C. Williams, 1st Maine Regiment; Surgeon A. Powell, 2d N. Y. Volunteers; Surgeon Foster Swift, and Assistants Surgeons G. S. Winston and Charles De Graw, 8th N. Y. State Militia; Dr. Edward T. Taylor, 1st N. J. Volunteers; Dr. Stephen Griswold, 8th N. Y. Volunteers; Dr. Eugene Peugnet, 71st N. Y. Volunteers; Dr. S. E. Ferguson, 2nd N. Y. S. M.; Dr. Stewart, 1st Minnesota; Dr. Harris, Drs. J. M. Homeston and F. Swalm, 14th N. Y. Militia; Assistant Surgeons Steinberg and Grey, of the Regular Army. They were captured, most of them, while attending to the sick in the hospital, near the battle-ground. Dr. Steinberg has since escaped, and many of the others have been released on parole.

#### Obituary Record.

Died, in London, June 13th, 1861, of confluent small-pox, HENRY GRAY, F.R.S., at the early age of 36. Mr. Gray was the Lecturer of Anatomy at St. George's Hospital. He is well known in this country through his valuable "Descriptive and Surgical Anatomy," and through his prize dissertation "On the Structure and Use of the Spleen." In his death our science has sustained a severe loss.

— on the 11th of June, BENJAMIN PHILLIPS, F.R.C.S., F.R.S., &c., aged 56, formerly Surgeon and Lecturer on Surgery at the Westminster Hospital. He was the author of a valuable work on scrofula, a treatise on fractures, which obtained the Jacksonian Prize, a treatise on strictures of the urethra, of several valuable papers published in the Transactions of the Royal Medical and Chirurgical Society, &c.

— on the 19th of July, suddenly, FRANCIS RYND, an eminent young surgeon of Dublin, of fatty degeneration of the heart, under circumstances of excitement.

— recently, at Weimar, of apoplexy, Dr. ROBERT FRIEDRICH, well known as professor at Jena and Berlin, and as a large contributor to periodical literature. Our readers will remember the notice of his "Notizen aus dem Gebiete der Natur—und Heilkunde," in a former number of the MONTHLY.

*New York Medical College and Charity Hospital, No. 90 East Thirteenth Street, near Fourth Avenue.*—Dr. E. Noeggerath has been appointed to the Chair of Clinical Midwifery and Diseases of Females, in this institution.

A Chair of Ophthalmia and Aural Surgery (the first, we believe, ever created in this country,) has been instituted, and Dr. W. F. Holcomb appointed to the same.

The Fall Course of Lectures will commence on Monday, September 16th, and continue until the commencement of the regular term in October. This Course will be *gratis* to students of the College who intend taking a full Winter Course, and will be as follows:

On Amputations, by Prof. Carnochan.

On Diseases of the Genito-Urinary Organs, by Prof. Raphael.

On the Anatomy of the Female Pelvis and Fœtal Head, by Prof. C. A. Budd.

On Infantile Fevers, by Prof. Jacobi.

On the Diagnosis of Uterine Diseases, by Prof. Noeggerath.

On the Use of the Ophthalmoscope, by Prof. Holcomb.

Clinical Instruction forms a prominent feature in this School, and is conducted as follows:

Mondays, Surgical, Prof. Raphael.

Tuesdays, Diseases of Children, Prof. Jacobi.

Wednesdays, Diseases of Women, Profs. Noeggerath and Budd.

Thursdays, Surgical, Prof. Carnochan.

Fridays, Diseases of Children, Prof. Jacobi.

Saturdays, Medical.

Prof. B. J. Raphael, No. 124 Ninth Street, is the Acting Dean.